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| # | Paper | IF | Citations |
|------|---|--------|-----------|
| 2312 | Real and realistic quantum computers. <i>Nature</i> , 1998 , 393, 113-114 | 50.4 | 46 |
| 2311 | Transcription sans TBP. <i>Nature</i> , 1998 , 393, 114-5 | 50.4 | 3 |
| 2310 | Quantum computing with quantum-dot cellular automata using coherence vector formalism. | | |
| 2309 | Decoherent Dynamics of a Two-Level System Coupled to a Sea of Spins. 1998 , 81, 5710-5713 | | 66 |
| 2308 | CONDENSED MATTER PHYSICS:Buried Spins in Slow Motion. 1998 , 281, 656-657 | | 3 |
| 2307 | Electronic configurations in coupled many-electron quantum-dot systems. 1999 , 14, 949-957 | | 4 |
| 2306 | Growth and Characterization of the Isotopically Enriched 28Si Bulk Single Crystal. 1999 , 38, L1493-L149 | 5 | 56 |
| 2305 | Molecular scale heat engines and scalable quantum computation. 1999, | | 24 |
| 2304 | Fidelity and Leakage of Josephson Qubits. 1999 , 83, 5385-5388 | | 64 |
| 2303 | Spin-valve effects in a semiconductor field-effect transistor: A spintronic device. 1999 , 60, 7764-7767 | | 183 |
| 2302 | Enlarged symmetry and coherence in arrays of quantum dots. 1999 , 59, 12573-12578 | | 27 |
| 2301 | Decoherence and programmable quantum computation. 1999 , 60, 4363-4374 | | 36 |
| 2300 | Quantum computing and single-qubit measurements using the spin-filter effect (invited). 1999 , 85, 478 | 5-4787 | 7 64 |
| 2299 | Classical model for bulk-ensemble NMR quantum computation. 1999 , 60, 4354-4362 | | 51 |
| 2298 | Physical optimization of quantum error correction circuits. 1999 , 60, 11404-11416 | | 75 |
| 2297 | Cellular structures for computation in the quantum regime. 1999 , 60, 4334-4337 | | 6 |
| 2296 | Capacitive energies of quantum dots with hydrogenic impurity. 1999 , 60, 13720-13726 | | 12 |

| Optically driven quantum-dot quantum computer. 1999 , 60, 4146-4149 | | 21 |
|--|-------------------|------|
| 2294 Suppressing environmental noise in quantum computation through pulse control. 1999 , 261, 139-144 | | 75 |
| 2293 Sub-100 nm structures by neutral atom lithography. 1999 , 46, 105-108 | | 15 |
| 2292 Josephson junction persistent current elements for quantum computation. 1999 , 47, 3-5 | | 5 |
| 2291 Electron-nuclear spin dynamics in a mesoscopic solid-state quantum computer. 1999 , 47, 277-279 | | 2 |
| 2290 Qubit devices and the issue of quantum decoherence. 1999 , 22, 257-370 | | 44 |
| Josephson-junction qubits with controlled couplings. <i>Nature</i> , 1999 , 398, 305-307 | 50.4 | 548 |
| 2288 Evidence against 🛭 ltrahard 🗈 hermal turbulence at very high Rayleigh numbers. <i>Nature</i> , 1999 , 398, 307 | '-31 6 0.4 | 118 |
| Environmentally decoupled sds -wave Josephson junctions for quantum computing. <i>Nature</i> , 1999 , 398, 679-681 | 50.4 | 369 |
| 2286 Metastable ice VII at low temperature and ambient pressure. <i>Nature</i> , 1999 , 398, 681-684 | 50.4 | 78 |
| 2285 Coherent control of macroscopic quantum states in a single-Cooper-pair box. <i>Nature</i> , 1999 , 398, 786- | 788 50.4 | 1843 |
| 2284 Lateral drag of spin coherence in gallium arsenide. <i>Nature</i> , 1999 , 397, 139-141 | 50.4 | 709 |
| Entropic trapping of macromolecules by mesoscopic periodic voids in a polymer hydrogel. <i>Nature</i> , 1999 , 397, 141-4 | 50.4 | 151 |
| 2282 Measurement of the state of an individual spin using a Eurnstile (1999, 70, 147-153 | | |
| 2281 Coupled quantum dots as quantum gates. 1999 , 59, 2070-2078 | | 1192 |
| 2280 Concepts of spin quantum computing. 1999 , 17, 141-172 | | 16 |
| Theory of spin coherence in semiconductor heterostructures. 1999 , 200, 219-230 | | 27 |
| 2278 Quantum computers and quantum coherence. 1999 , 200, 202-218 | | 108 |

| 2277 | Quantum Computation with Ions in Thermal Motion. 1999 , 82, 1971-1974 | 691 |
|------|--|------|
| 2276 | Superconducting persistent-current qubit. 1999 , 60, 15398-15413 | 504 |
| 2275 | Effect of the spin-orbit interaction on the band structure and conductance of quasi-one-dimensional systems. 1999 , 60, 14272-14285 | 199 |
| 2274 | Resonant electron transfer between quantum dots. 1999 , 60, 8798-8803 | 72 |
| 2273 | Quantum computing with electrons floating on liquid helium. 1999 , 284, 1967-9 | 266 |
| 2272 | On universal and fault-tolerant quantum computing: a novel basis and a new constructive proof of universality for Shor's basis. | 21 |
| 2271 | Quantencomputer: Wie sich Verschräkung füdie Informationsverarbeitung nutzen la 1999, 55, 37-43 | 8 |
| 2270 | Polarization gradient light masks in atom lithography. 1999 , 46, 148-153 | 20 |
| 2269 | Polynomial-Time Algorithms for Prime Factorization and Discrete Logarithms on a Quantum Computer. 1999 , 41, 303-332 | 934 |
| 2268 | Quantum computation with quantum dots and terahertz cavity quantum electrodynamics. 1999 , 60, 3508-3514 | 126 |
| 2267 | Quantum Logic Gates in Optical Lattices. 1999 , 82, 1060-1063 | 504 |
| 2266 | Josephson persistent-current qubit. 1999 , 285, 1036-9 | 1025 |
| 2265 | Quantum electronics: the physics and technology of low-dimensional electronic systems into the new millennium. 2000 , 358, 151-172 | 1 |
| 2264 | Nano-Qubits ft Quantencomputer. 2000 , 31, 34-40 | 2 |
| 2263 | Can single-electron integrated circuits and quantum computers be fabricated in silicon?. 2000 , 28, 553-562 | 37 |
| 2262 | Solid-state quantum computation new direction for nanotechnology. 2000 , 27, 89-104 | 41 |
| 2261 | Formation of unintentional dots in small Si nanostructures. 2000 , 28, 413-417 | 6 |
| 2260 | Quantenangorithmen k¶nnen Unm¶gliches. 2000 , 31, 252-259 | 1 |

(2000-2000)

| Quantum Gates by Coupled Quantum Structure. 2000 , 48, 1005-1021 | uantum Dots and Measurement Procedure in Field-effect-transistor | | 4 |
|---|---|------|-----|
| 2258 NMR Based Quantum Informa | tion Processing: Achievements and Prospects. 2000 , 48, 875-907 | | 163 |
| 2257 Stable site and stable charge s | tate of a fluorine atom in Si. 2000 , 116, 595-597 | | 7 |
| 2256 Linear microwave response of | a superconducting charge qubit. 2000 , 275, 159-163 | | 17 |
| 2255 An algorithmic benchmark for | quantum information processing. <i>Nature</i> , 2000 , 404, 368-70 | 50.4 | 192 |
| 2254 A scalable quantum computer | with ions in an array of microtraps. <i>Nature</i> , 2000 , 404, 579-81 | 50.4 | 378 |
| 2253 Magnetoresistance from quan | tum interference effects in ferromagnets. <i>Nature</i> , 2000 , 404, 581-4 | 50.4 | 188 |
| 2252 Amplifying quantum signals w | ith the single-electron transistor. <i>Nature</i> , 2000 , 406, 1039-46 | 50.4 | 329 |
| 2251 Ultimate physical limits to com | nputation. <i>Nature</i> , 2000 , 406, 1047-54 | 50.4 | 576 |
| 2250 Universal quantum computation | on with the exchange interaction. <i>Nature</i> , 2000 , 408, 339-42 | 50.4 | 684 |
| 2249 Kondo physics in carbon nanot | rubes. <i>Nature</i> , 2000 , 408, 342-6 | 50.4 | 563 |
| addendum: Magnetoresistance 408, 616-616 | e from quantum interference effects in ferromagnets. <i>Nature</i> , 2000 , | 50.4 | 6 |
| Correction: Ultrasensitive phenotes 2247 , 408, 616-616 | romone detection by mammalian vomeronasal neurons. Nature, 2000 | 50.4 | 1 |
| 2246 Erratum: Tom22 is a multifunc 2000 , 408, 616-616 | tional organizer of the mitochondrial preprotein translocase. <i>Nature</i> , | 50.4 | 1 |
| | | | |
| Erratum: Embryonic lethality in Nature, 2000 , 408, 616-616 | n mice homozygous for a processing-deficient allele of Notch1. | 50.4 | |
| ²²⁴⁵ Nature, 2000 , 408, 616-616 | n mice homozygous for a processing-deficient allele of Notch1. | 50.4 | 1 |
| 2245 <i>Nature</i> , 2000 , 408, 616-616 2244 Advanced mesoscopic device of | concepts and technology. 2000 , 53, 29-36 Is in the Nanoscale Physical Sciences: A Semiconductor Research | 50.4 | 1 9 |

| 2241 | Issues of practical realization of a quantum dot register for quantum computing. 2000 , 29, 549-553 | 12 |
|------|--|-----|
| 2240 | Josephson Junction based Quantum Computing. 2000 , 10, 375-382 | 1 |
| 2239 | The hyperfine energy spectrum of 31P donors in a silicon NMR quantum computer. 2000 , 29, 285-293 | |
| 2238 | . 2000, | 11 |
| 2237 | Quantum Computer Using Coupled-Quantum-Dot Molecules. 2000 , 39, 4642-4646 | 13 |
| 2236 | The nuclear magnetic resonance spectrum of 31P donors in a silicon quantum computer. 2000 , 11, 392-396 | 23 |
| 2235 | Quantum computation with ballistic qubits. | |
| 2234 | Nano-electronic circuits as quantum bits. | 2 |
| 2233 | Epitaxial Growth of Pure 30Si Layers on a Natural Si(100) Substrate Using Enriched 30SiH4. 2000 , 39, L1133-L1134 | 9 |
| 2232 | Electron spin relaxation in zinc-blende heterostructures. 2000 , 11, 215-217 | 7 |
| 2231 | Transmission of two interacting electrons. 2000 , 50, 354-360 | 9 |
| 2230 | Dynamics of nuclear spin measurement in a mesoscopic solid-state quantum computer. 2000 , 12, 2945-2952 | 5 |
| 2229 | Electron-spin polarization in magnetically modulated quantum structures. 2000, 62, 2635-2639 | 101 |
| 2228 | Solid-state nuclear-spin quantum computer based on magnetic resonance force microscopy. 2000 , 61, 14694-14699 | 40 |
| 2227 | Scalable solid-state quantum computer based on quantum dot pillar structures. 2000 , 61, 7526-7535 | 30 |
| 2226 | Schemes for parallel quantum computation without local control of qubits. 2000 , 61, | 47 |
| | | |
| 2225 | Waveguide diffusion modes and slowdown of DJakonov-Perellspin relaxation in narrow two-dimensional semiconductor channels. 2000 , 61, R2413-R2416 | 105 |

(2000-2000)

| 2223 | Fast quantum search algorithms in protein sequence comparisons: quantum bioinformatics. 2000 , 62, 7532-5 | 10 |
|------|--|--------------|
| 2222 | Quantum chaos border for quantum computing. 2000 , 62, 3504-7 | 128 |
| 2221 | Spin relaxation in GaAs/AlxGa1⊠As quantum wells. 2000 , 62, 13034-13039 | 96 |
| 2220 | Propagation of local decohering action in distributed quantum systems. 2000 , 62, | 10 |
| 2219 | Single-spin measurement using single-electron transistors to probe two-electron systems. 2000 , 61, 2961-297 | 72 91 |
| 2218 | Quantum computation with mesoscopic superposition states. 2000 , 61, | 32 |
| 2217 | Single qubit from two coupled quantum dots: An approach to semiconductor quantum computations. 2000 , 63, | 36 |
| 2216 | Quantum entanglement and information processing via excitons in optically driven quantum dots. 2000 , 62, | 97 |
| 2215 | All-optical electron spin quantum computer with ancilla bits for operations in each coupled-dot cell. 2000 , 62, | 13 |
| 2214 | Simulations of quantum-logic operations in a quantum computer with a large number of qubits. 2000 , 61, | 19 |
| 2213 | Analysis of errors in linear-optics quantum computation. 2000 , 61, | 11 |
| 2212 | Emergence of quantum chaos in the quantum computer core and how to manage it. 2000 , 62, 6366-75 | 107 |
| 2211 | Mechanisms of decoherence in weakly anisotropic molecular magnets. 2000 , 84, 3458-61 | 47 |
| 2210 | NMR-based nanostructure switch for quantum logic. 2000 , 62, R2267-R2270 | 14 |
| 2209 | Error correction for mutually interacting qubits. 2000 , 62, | 5 |
| 2208 | Experimental search for the electrical spin injection in a semiconductor. 2000 , 62, 9996-9999 | 154 |
| 2207 | Sequential tunneling and spin degeneracy of zero-dimensional states. 2000 , 62, 8240-8248 | 10 |
| 2206 | Experimental demonstration of a three-qubit quantum computation algorithm using a single photon and linear optics. 2000 , 62, | 36 |

| 2205 | Entangling dipole-dipole interactions for quantum logic with neutral atoms. 2000, 61, | 79 |
|--------------------------------------|--|---------------------------|
| 2204 | Progressive suppression of spin relaxation in two-dimensional channels of finite width. 2000 , 61, 13115-1312 | 0 139 |
| 2203 | Fault-tolerant quantum computation with local gates. 2000 , 47, 333-345 | 56 |
| 2202 | Self-assembled nanoelectronic quantum computer based on the Rashba effect in quantum dots. 2000 , 61, 13813-13820 | 88 |
| 2201 | All-optical magnetic resonance in semiconductors. 2000 , 287, 473-6 | 210 |
| 2200 | Quantum computation using electrons trapped by surface acoustic waves. 2000 , 62, 8410-8419 | 169 |
| 2199 | Experimental realization of an order-finding algorithm with an NMR quantum computer. 2000 , 85, 5452-5 | 117 |
| 2198 | Implementation of the refined Deutsch-Jozsa algorithm on a three-bit NMR quantum computer. 2000 , 62, | 30 |
| 2197 | Quantum gates by coupled asymmetric quantum dots and controlled-NOT-gate operation. 2000 , 61, | 113 |
| | | |
| 2196 | Grover's search algorithm: An optical approach. 2000 , 47, 257-266 | 116 |
| 2196 2195 | Grover's search algorithm: An optical approach. 2000, 47, 257-266 Prospects for quantum computing. | 116 |
| | Prospects for quantum computing. | |
| 2195 | Prospects for quantum computing. | 2 |
| 2195 2194 | Prospects for quantum computing. Quantum controlled-NOT gate with Bot[trapped ions. 2000, 47, 499-505 RISQ-reduced instruction set quantum computers. 2000, 47, 2515-2527 | 2 14 |
| 2195 2194 2193 | Prospects for quantum computing. Quantum controlled-NOT gate with BotErapped ions. 2000, 47, 499-505 RISQ-reduced instruction set quantum computers. 2000, 47, 2515-2527 Quantum information processing with semiconductor macroatoms. 2000, 85, 5647-50 | 2 14 6 |
| 2195 2194 2193 2192 2191 | Prospects for quantum computing. Quantum controlled-NOT gate with Botlerapped ions. 2000, 47, 499-505 RISQ-reduced instruction set quantum computers. 2000, 47, 2515-2527 Quantum information processing with semiconductor macroatoms. 2000, 85, 5647-50 | 2 14 6 412 |
| 2195 2194 2193 2192 2191 | Prospects for quantum computing. Quantum controlled-NOT gate with BotEtrapped ions. 2000, 47, 499-505 RISQ-reduced instruction set quantum computers. 2000, 47, 2515-2527 Quantum information processing with semiconductor macroatoms. 2000, 85, 5647-50 Theoretical perspectives on spintronics and spin-polarized transport. 2000, 36, 2821-2826 Hybrid ferromagnet-semiconductor device for memory and logic. 2000, 36, 2758-2763 | 2 14 6 412 59 |

(2001-2000)

| 2187 | Electron-spin-resonance transistors for quantum computing in silicon-germanium heterostructures. 2000 , 62, | 660 |
|------|---|-----|
| 2186 | Universal fault-tolerant quantum computation on decoherence-free subspaces. 2000 , 85, 1758-61 | 251 |
| 2185 | Hilbert-space structure of a solid-state quantum computer: Two-electron states of a double-quantum-dot artificial molecule. 2000 , 61, | 314 |
| 2184 | Spintronics and Quantum Computing with Quantum Dots. 2001 , 293-306 | 1 |
| 2183 | InAs/GaAs single-electron quantum dot qubit. 2001 , 90, 6151-6155 | 131 |
| 2182 | QUANTUM COMPUTATION WITH BALLISTIC ELECTRONS. 2001 , 15, 125-133 | 33 |
| 2181 | Design aspects of superconducting-phase quantum bits. 2001 , 63, | 147 |
| 2180 | Spin-orbit splitting in semiconductor quantum dots with a parabolic confinement potential. 2001 , 63, | 111 |
| 2179 | High-Tc superconductors toward small scale applications. 2001 , 1-70 | 1 |
| 2178 | Thermal entanglement in three-qubit Heisenberg models. 2001 , 34, 11307-11320 | 130 |
| 2177 | Continuous quantum measurement of two coupled quantum dots using a point contact: A quantum trajectory approach. 2001 , 63, | 126 |
| 2176 | Picosecond far-infrared studies of intra-acceptor dynamics in bulk GaAs and Edoped AlAs/GaAs quantum wells. 2001 , 63, | 28 |
| 2175 | Quanta and information. 2001, 42, 1-91 | 12 |
| 2174 | Selective quantum evolution of a qubit state due to continuous measurement. 2001 , 63, | 183 |
| 2173 | A quantum conversation. 2001 , 293, 2035-7 | |
| 2172 | Time-resolved measurement of dissipation-induced decoherence in a Josephson junction. 2001 , 293, 1457-9 | 89 |
| 2171 | Natural thermal and magnetic entanglement in the 1D Heisenberg model. 2001 , 87, 017901 | 651 |
| 2170 | Entanglement in the quantum Heisenberg XY model. 2001 , 64, | 497 |

| 2169 | Experimental realization of noiseless subsystems for quantum information processing. 2001 , 293, 2059-63 | 175 |
|------|--|------|
| 2168 | Quantum-state engineering with Josephson-junction devices. 2001 , 73, 357-400 | 1962 |
| 2167 | Magnetic qubits as hardware for quantum computers. 2001 , 12, 181-186 | 252 |
| 2166 | Quantum computing with quantum-dot cellular automata. 2001 , 63, | 79 |
| 2165 | Local reactivity of fullerenes and nano-device applications. 2001 , 12, 245-249 | 15 |
| 2164 | Radio-frequency single-electron transistor as readout device for qubits: charge sensitivity and backaction. 2001 , 86, 3376-9 | 163 |
| 2163 | Reducing constraints on quantum computer design by encoded selective recoupling. 2002, 88, 017905 | 84 |
| 2162 | Anisotropic spin exchange in pulsed quantum gates. 2001 , 87, 207901 | 72 |
| 2161 | Nonconventional computing paradigms in the new millennium: a roundtable. 2001 , 3, 82-99 | 6 |
| 2160 | Quantum information processing in localized modes of light within a photonic band-gap material. 2001 , 48, 1495-1502 | 9 |
| 2159 | Interplay between Zeeman coupling and swap action in spin-based quantum computer models: error correction in inhomogeneous magnetic fields. 2001 , 86, 918-21 | 67 |
| 2158 | Exchange in silicon-based quantum computer architecture. 2002 , 88, 027903 | 208 |
| 2157 | Electron and nuclear spin interactions in the optical spectra of single GaAs quantum dots. 2001 , 86, 5176-9 | 180 |
| 2156 | Spin-based quantum computation in multielectron quantum dots. 2001 , 64, | 66 |
| 2155 | Quantum network optimization. 2001 , 64, | 11 |
| 2154 | Anisotropic exchange interaction of localized conduction-band electrons in semiconductors. 2001 , 64, | 149 |
| 2153 | Posters. 2001 , 9, 187-220 | |
| 2152 | Endo-fullerenes and Doped Bucky Onions as Seed Materials for Solid State Quantum Bits. 2001 , 675, 1 | |

2151 Modeling of electrostatic gate operations in the Kane solid state quantum computer. **2001**,

| 2150 Solid state quantum computers: a nanoscopic solution to the Moore's law problem. 2001 , | |
|--|-----|
| Nanofabrication processes for single-ion implantation of silicon quantum computer devices. 2001 , | 1 |
| 2148 Nanoscale fabrication using single-ion impacts. 2001 , 4590, 173 | 2 |
| Decoherence and dephasing in coupled Josephson-junction qubits. 2001 , 268, 273-283 | 57 |
| Quantum size effect and temperature effect on spin-polarized transport in ZnSe/Zn1\(\text{M}\)MnxSe multilayers. 2001 , 284, 205-215 | 3 |
| 2145 Electron spins in quantum dots for spintronics and quantum computation. 2001 , 119, 229-236 | 38 |
| 2144 Spin electronics and spin computation. 2001 , 119, 207-215 | 133 |
| 2143 Spin-dependent phenomena in ferromagnetic/nonmagnetic IIIIV heterostructures. 2001 , 119, 281-289 | 33 |
| 2142 Cavity dark states for quantum computing. 2001 , 195, 411-417 | 16 |
| A simple frequency-domain quantum computer with ions in a crystal coupled to a cavity mode. 2001 , 196, 119-125 | 41 |
| Influence of non-resonant effects on the dynamics of quantum logic gates at room temperature. 2001 , 293, 350-361 | 2 |
| 2139 Progress of solid-state quantum computers at NRIM. 2001 , 298, 567-572 | 2 |
| 2138 Thermal conductance through discrete quantum channels. 2001 , 9, 60-68 | 24 |
| 2137 Coherent dynamics and manipulation of electron spins in nanostructures. 2001 , 9, 175-184 | 5 |
| 2136 Spin coherence in semiconductors: storage, transport and reduced dimensionality. 2001 , 9, 194-201 | 20 |
| Theory of coherent optical control of exciton spin dynamics in a semiconductor dot. 2001 , 10, 7-12 | 4 |
| 2134 Observation of interdot tunneling process of spin-polarized electrons. 2001 , 10, 32-35 | 6 |

| 2133 | Spin relaxation in n-modulation doped GaAs/AlGaAs quantum wells. 2001, 10, 36-39 | 47 |
|------|--|----------|
| 2132 | SpinBrbit interaction and energy states in semiconductor quantum dots. 2001 , 10, 107-111 | 7 |
| 2131 | Quantum gates using spin states of triple quantum dot. 2001 , 10, 458-462 | 9 |
| 2130 | Isotopically engineered semiconductors hew media for the investigation of nuclear spin related effects in solids. 2001 , 10, 463-466 | 13 |
| 2129 | Readout of a single electron spin based quantum bit by current detection. 2001 , 11, 35-40 | 24 |
| 2128 | A nanospintronic universal quantum gate. 2001 , 11, 126-130 | 3 |
| 2127 | Optical quantum gates with semiconductor nanostructures. 2001 , 29, 137-150 | 1 |
| 2126 | Nanoscopic quantum networks: collective versus selective control. 2001 , 29, 93-106 | 2 |
| 2125 | Nanofabrication: conventional and nonconventional methods. 2001 , 22, 187-207 | 233 |
| 2124 | Nanoscale Compositional Fluctuations in Single InGaAs/GaAs Quantum Dots. 2001 , 224, 17-20 | 7 |
| 2123 | Electronic Coupling of Vertically Coupled Quantum Dots: Magnetic and Electric Field Effects. 2001 , 224, 397-404 | 4 |
| 2122 | SpinDrbit Energy State Splitting in Semiconductor Cylindrical and Spherical Quantum Dots. 2001 , 226, 175-184 | 3 |
| 2121 | Electron Paramagnetic Resonance in Monoisotope High-Purity Silicon-28. 2001 , 376, 8-11 | 1 |
| 2120 | Si/SiO2Structures with Quantum Size Effects: The Construction of a Low-Dimensional Nanoscale Electronic System in the Interface Layer of Si by Incorporating a Regularly Distributed Charge into SiO2. 2001 , 30, 312-316 | 2 |
| 2119 | Thermal concurrence mixing in a one-dimensional Ising model. 2001 , 64, | 243 |
| 2118 | Spintronics: a spin-based electronics vision for the future. 2001 , 294, 1488-95 | 9054 |
| 2117 | Quantum-dot cellular automata. 2001 , 25, 165-189 | 21 |
| 2116 | Electrical control of spin coherence in semiconductor nanostructures. <i>Nature</i> , 2001 , 414, 619-22 | 50.4 274 |

| 2115 Breakdown of intermediate-range order in liquid GeSe(2) at high pressure. <i>Nature</i> , 2001 , 414, 622-5 | 50.4 | 91 |
|---|------------------|------|
| Experimental realization of Shor's quantum factoring algorithm using nuclear magnetic resonance. Nature, 2001 , 414, 883-7 | 50.4 | 997 |
| Quantum computation using the 13C nuclear spins near the single NV defect center in diamond. 2001 , 91, 429-437 | | 97 |
| 2112 Coherent manipulation of semiconductor quantum bits with terahertz radiation. <i>Nature</i> , 2001 , 410, | 60-3 50.4 | 198 |
| 2111 Superconductivity at 39 K in magnesium diboride. <i>Nature</i> , 2001 , 410, 63-4 | 50.4 | 5205 |
| 2110 A role for ion implantation in quantum computing. 2001 , 175-177, 744-750 | | 13 |
| 2109 The cloudy crystal ball: Electronic devices for logic. 2001 , 81, 1315-1330 | | 8 |
| 2108 Quantum-beat recombination echoes. 2001 , 56, 716-721 | | 6 |
| 2107 . 2001 , 3, 42-55 | | 75 |
| A silicon-based nuclear magnetic resonance (NMR) quantum computer using resonant transfer of a single electron for the inter-qubit interaction. 2001 , 12, 536-539 | | 17 |
| 2105 Electronic devices, structures and transport in carbon based materials. 2001 , | | |
| 2104 Generation of Maximally Entangled Bell State in a Coupled Quantum Dot. 2001 , 18, 1308-1311 | | 1 |
| 2103 Epitaxial Growth of Pure 28Si Thin Films Using Isotopically Purified Ion Beams. 2001 , 40, L1283-L128 | 35 | 9 |
| 2102 A sensitive and fast radio frequency single-electron transistor. 2001 , 12, 96-99 | | 9 |
| 2101 Localization and entanglement of two interacting electrons in a double quantum dot. 2001 , 13, 838 | 9-8403 | 24 |
| 2100 . | | 20 |
| 2099 Quantum Boolean circuit construction and layout under locality constraint. | | 6 |
| 2098 Josephson Junctions and Quantum Computation. 2001 , 365-397 | | |

| 2097 Dynamics of a mesoscopic charge quantum bit under continuous quantum measurement. 2001 , 64, | 101 |
|--|-----|
| Stabilizing distinguishable qubits against spontaneous decay by detected-jump correcting quantum codes. 2001 , 86, 4402-5 | 39 |
| 2095 Quantum computing of quantum chaos and imperfection effects. 2001 , 86, 2162-5 | 30 |
| 2094 Impurity scattering induced entanglement of ballistic electrons. 2001 , 87, 277901 | 56 |
| 2093 Sample and hold strategy for quantum measurements of Josephson charge qubits. 2001 , 65, | 0 |
| 2092 Conversion of spin into directed electric current in quantum wells. 2001 , 86, 4358-61 | 233 |
| 2091 Solid-state quantum computer based on scanning tunneling microscopy. 2001 , 87, 097902 | 28 |
| 2090 One- and two-dimensional N-qubit systems in capacitively coupled quantum dots. 2001 , 64, | 25 |
| 2089 Quantum measurement of coherent tunneling between quantum dots. 2001 , 63, | 22 |
| 2088 Nonlocality of the exchange interaction probed by scanning tunneling spectroscopy. 2001 , 63, | 17 |
| 2087 The atomic fabrication of a silicon based quantum computer. | |
| 2086 Fast incomplete decoherence of nuclear spins in a quantum Hall ferromagnet. 2001 , 64, | 8 |
| 2085 Gate-controlled electron spin resonance in GaAs/AlxGa1⊠As heterostructures. 2001 , 64, | 78 |
| $_{2084}$ Superconducting charge qubits: The roles of self and mutual inductances. 2001 , 63, | 28 |
| Spin-resonant splitting in magnetically modulated semimagnetic semiconductor superlattices. 2001 , 64, | 26 |
| 2082 Suppression of arbitrary internal coupling in a quantum register. 2001 , 64, | 32 |
| Effect of an inhomogeneous external magnetic field on a quantum-dot quantum computer. 2001 , 64, | 25 |
| Spin-resonant suppression and enhancement in ZnSe/Zn1\(\mathbb{Z}\)MnxSe multilayer heterostructures. 2080 2001 , 63, | 37 |

(2001-2001)

| Photoemission study of the solid-state interdiffusion in hybrid Fe/ZnSe/GaAs(001) heterostructures. 2001 , 90, 5973-5978 | 10 |
|--|-----|
| Fluorescence x-ray absorption fine structure study on local structures around Fe atoms heavily doped in GaN by low-temperature molecular-beam epitaxy. 2001 , 78, 2470-2472 | 13 |
| 2077 Spin diffusion and relaxation measurements by optical sampling four-wave-mixing technique. | |
| 2076 Quantum-information processing with ferroelectrically coupled quantum dots. 2001 , 64, | 87 |
| Implementing universal multiqubit quantum logic gates in three- and four-spin systems at room temperature. 2001 , 63, | 26 |
| 2074 Single-electron measurements with a micromechanical resonator. 2001 , 64, | 5 |
| 2073 Towards the fabrication of phosphorus qubits for a silicon quantum computer. 2001 , 64, | 158 |
| 2072 Exploring Hilbert space: Accurate characterization of quantum information. 2001 , 65, | 86 |
| 2071 Cavity QED Deutsch quantum computer. 2001 , 64, | 2 |
| 2070 Correlated quantum measurement of a solid-state qubit. 2001 , 64, | 10 |
| 2069 Energy barrier to decoherence. 2001 , 63, | 19 |
| 2068 Quantum computing without local control of qubit-qubit interactions. 2002 , 88, 017904 | 56 |
| 2067 Spin-wave utilization in a quantum computer. 2001 , 64, | 24 |
| 2066 Nuclear-spin qubit dephasing time in the integer quantum Hall effect regime. 2001 , 63, | 22 |
| 2065 Perturbation theory for quantum computation with a large number of qubits. 2001 , 65, | 12 |
| 2064 Limits to error correction in quantum chaos. 2001 , 86, 5192-5 | 11 |
| 2063 Quantum computing with quantum dots on quantum linear supports. 2001 , 65, | 28 |
| 2062 Decoherence and dissipation during a quantum XOR gate operation. 2001 , 65, | 91 |

| 2061 | Magnetic resonance force microscopy quantum computer with tellurium donors in silicon. 2001 , 86, 2894-6 | 31 |
|------------------------------|---|---------------------|
| 2060 | Indirect interaction of solid-state qubits via two-dimensional electron gas. 2001 , 86, 5112-5 | 93 |
| 2059 | Optical manipulation of nuclear spin by a two-dimensional electron gas. 2001 , 86, 2677-80 | 136 |
| 2058 | Electron spin relaxation near a micron-size ferromagnet. 2001 , 87, 277602 | 74 |
| 2057 | Cancellation of spin-orbit effects in quantum gates based on the exchange coupling in quantum dots. 2002 , 88, 047903 | 98 |
| 2056 | Theory of scanning tunneling microscopy measurement of single spin decoherence in a superconductor. 2002 , 88, 037003 | 7 |
| 2055 | Quantum electronic transport through a precessing spin. 2002 , 89, 286802 | 40 |
| 2054 | Conditional-phase switch at the single-photon level. 2002 , 89, 037904 | 60 |
| 2053 | Dynamical fidelity of a solid-state quantum computation. 2002 , 66, 056206 | 10 |
| | | |
| 2052 | Using sequences of pulses to control coherence in an open quantum computing system. 2002 , 91, 9368-9374 | 7 |
| | Using sequences of pulses to control coherence in an open quantum computing system. 2002 , 91, 9368-9374 Highly coherent solid-state quantum bit from a pair of quantum dots. 2002 , 81, 168-170 | 5 |
| 2051 | | , |
| 2051 2050 | Highly coherent solid-state quantum bit from a pair of quantum dots. 2002 , 81, 168-170 | 5 |
| 2051 2050 2049 | Highly coherent solid-state quantum bit from a pair of quantum dots. 2002 , 81, 168-170 Encoded universality for generalized anisotropic exchange Hamiltonians. 2002 , 66, | 5 |
| 2051 2050 2049 | Highly coherent solid-state quantum bit from a pair of quantum dots. 2002 , 81, 168-170 Encoded universality for generalized anisotropic exchange Hamiltonians. 2002 , 66, Single-spin dynamics and decoherence in a quantum dot via charge transport. 2002 , 65, | 5 13 95 |
| 2051 2050 2049 2048 | Highly coherent solid-state quantum bit from a pair of quantum dots. 2002, 81, 168-170 Encoded universality for generalized anisotropic exchange Hamiltonians. 2002, 66, Single-spin dynamics and decoherence in a quantum dot via charge transport. 2002, 65, Voltage-tunable singlet-triplet transition in lateral quantum dots. 2002, 66, Double-occupation errors induced by orbital dephasing in exchange-interaction quantum gates. | 5 13 95 91 |
| 2051 2050 2049 2048 | Highly coherent solid-state quantum bit from a pair of quantum dots. 2002, 81, 168-170 Encoded universality for generalized anisotropic exchange Hamiltonians. 2002, 66, Single-spin dynamics and decoherence in a quantum dot via charge transport. 2002, 65, Voltage-tunable singlet-triplet transition in lateral quantum dots. 2002, 66, Double-occupation errors induced by orbital dephasing in exchange-interaction quantum gates. 2002, 66, Quantum computation with coupled quantum dots embedded in optical microcavities. 2002, 65, | 5 13 95 91 |

(2002-2002)

| 2043 | Effects of J-gate potential and uniform electric field on a coupled donor pair in Si for quantum computing. 2002 , 66, | 25 |
|------|--|----|
| 2042 | Oscillating magnetoresistance in diluted magnetic semiconductor barrier structures. 2002 , 65, | 13 |
| 2041 | Scaling considerations in ground-state quantum computation. 2002 , 65, | 11 |
| 2040 | Possible realization of Josephson charge qubits in two coupled Bose-Einstein condensates. 2002 , 65, | 12 |
| 2039 | Spin decay and quantum parallelism. 2002 , 66, | 98 |
| 2038 | Digital switching in the quantum domain. 2002 , 1, 154-164 | 18 |
| 2037 | Pseudo-digital quantum bits. 2002 , 81, 4619-4621 | 14 |
| 2036 | Minimisation of P surface segregation during epitaxial silicon growth for the fabrication of a silicon-based quantum computer. | |
| 2035 | Ultradense phosphorous delta layers grown into silicon from PH3 molecular precursors. 2002 , 80, 1580-1582 | 53 |
| 2034 | Ammonia-based quantum computer. 2002 , 65, | 14 |
| 2033 | High Enrichment of 28Si by Infrared Multiple Photon Decomposition of Si2F6. 2002 , 39, 457-462 | 1 |
| 2032 | Spin-sensitive bleaching and monopolar spin orientation in quantum wells. 2002 , 88, 057401 | 49 |
| 2031 | Quantum control via encoded dynamical decoupling. 2002 , 66, | 65 |
| 2030 | Scanning tunneling microscopy of defect states in the semiconductor Bi2Se3. 2002 , 66, | 81 |
| 2029 | Self-consistent non-Markovian theory of a quantum-state evolution for quantum-information processing. 2002 , 66, | 37 |
| 2028 | Nuclear spin relaxation in integral and fractional quantum Hall systems. 2002 , 66, | 2 |
| 2027 | Exact gate sequences for universal quantum computation using the XY interaction alone. 2002 , 65, | 33 |
| 2026 | Power of anisotropic exchange interactions: Universality and efficient codes for quantum computing. 2002 , 65, | 25 |

| 2025 Quantum phase-gate implementation for trapped ions in thermal motion. 2002 , 66, | 11 |
|---|-----|
| 2024 Nonadiabatic controlled-NOT gate for the Kane solid-state quantum computer. 2002 , 65, | 5 |
| 2023 Decoherence of electron spin qubits in Si-based quantum computers. 2002 , 66, | 92 |
| 2022 Robust and fragile entanglement of three qubits: Relation to permutation symmetry. 2002 , 65, | 29 |
| 2021 Magnetic-resonance force microscopy measurement of entangled spin states. 2002 , 66, | 3 |
| 2020 Electrically controlled nuclear spin polarization and relaxation by quantum-Hall states. 2002 , 88, 176601 | 137 |
| 2019 Gate errors in solid-state quantum-computer architectures. 2002 , 66, | 29 |
| 2018 Two-qubit quantum computing in a projected subspace. 2002 , 65, | 11 |
| Encapsulation of phosphorus dopants in silicon for the fabrication of a quantum computer. 2002 , 81, 3197-3199 | 83 |
| 2016 Qubits as parafermions. 2002 , 43, 4506-4525 | 36 |
| 2015 Interference effects in resonant magnetotransport. 2002 , 66, | 61 |
| 2014 Two-electron quantum dots as scalable qubits. 2002 , 66, | 34 |
| 2013 Strain effects on silicon donor exchange: Quantum computer architecture considerations. 2002 , 66, | 67 |
| 2012 Spin polarization of electrons tunneling through magnetic-barrier nanostructures. 2002 , 66, | 78 |
| 2011 Errors due to finite rise and fall times of pulses in superconducting charge qubits. 2002 , 65, | 9 |
| Sensitivity of a piezoelectric micromechanical displacement detector based on the radio-frequency single-electron transistor. 2002 , 92, 7550-7555 | 7 |
| 2009 Universal quantum logic from Zeeman and anisotropic exchange interactions. 2002 , 66, | 37 |
| 2008 Schr¶dinger Equation for an Open System. 2002 , 19, 1238-1241 | 4 |

| 2007 Quantum-efficient charge detection using a single-electron transistor. 2002 , 58, 562-568 | 14 |
|---|-----|
| 2006 chapter 1 III-V Ferromagnetic Semiconductors. 2002 , 14, 1-87 | 85 |
| 2005 ULTRAFAST MANIPULATION OF ELECTRON SPIN COHERENCE IN QUANTUM WELLS. 2002 , 16, 2930-2935 | 1 |
| 2004 Implementation of universal control on a decoherence-free qubit. 2002 , 4, 5-5 | 84 |
| 2003 Technology and materials issues in semiconductor-based magnetoelectronics. 2002 , 17, 342-354 | 113 |
| 2002 Single ion implantation for solid state quantum computer development. 2002 , 20, 2819 | 32 |
| 2001 Magnonic spectral gaps and discrete transmission in serial loop structures. 2002 , 14, 637-655 | 11 |
| 2000 Strained silicon for quantum computing. 2002 , 35, L7-L10 | 5 |
| Quantum Entanglement and Information Transmission Between Non-Direct-Coupled Qubits in an Array of Spatially Fixed Qubits. 2002 , 19, 7-9 | 4 |
| Single-electron transistor architectures for charge motion detection in solid-state quantum computer devices. 2002 , 11, 749-755 | 3 |
| 1997 A self-aligned fabrication process for silicon quantum computer devices. 2002 , 13, 686-690 | 7 |
| Scanning tunnelling microscope fabrication of arrays of phosphorus atom qubits for a silicon quantum computer. 2002 , 11, 741-748 | 7 |
| 1995 Entanglement of Two-Qubit Quantum Heisenberg XYZ Chain. 2002 , 19, 1044-1047 | 12 |
| Spin-polarization effect and wave-vector filtering effect in composite magnetic-barrier structures. 2002 , 17, 1184-1188 | 5 |
| 1993 Nanoscale fabrication using single-ion impacts. 2002 , 11, 686-690 | 3 |
| Nanofabrication processes for single-ion implantation of silicon quantum computer devices. 2002 , 11, 735-740 | 4 |
| 1991 High-fidelity teleportation of entanglements of running-wave field states. 2002 , 4, 316-325 | 10 |
| Realization of the Fredkin Gate by Three Transition Pulses in a Nuclear Magnetic Resonance Quantum Information Processor. 2002 , 19, 1048-1050 | 15 |

| 1989 Pairwise entanglement in the XX model with a magnetic impurity. 2002 , 35, 4293-4300 | 42 |
|---|-----|
| 1988 Electron spins in artificial atoms and molecules for quantum computing. 2002 , 17, 355-366 | 41 |
| 1987 Thermal noise in a solid state quantum computer. 2002 , 35, 2499-2502 | 7 |
| 1986 Nanoelectronics. 2002 , 188-231 | |
| 1985 Single ion implantation in the quantum computer construction project. 2002 , | |
| 1984 . 2002 , | |
| 1983 All-silicon quantum computer. 2002 , 89, 017901 | 196 |
| 1982 Spin-Polarized Nitroxide Radicals in Organic Glasses 2002, 106, 4838-4845 | 12 |
| 1981 Scalable solid-state quantum processor using subradiant two-atom states. 2002 , 89, 207902 | 42 |
| Comprehensive encoding and decoupling solution to problems of decoherence and design in solid-state quantum computing. 2002 , 89, 047901 | 68 |
| 1979 Creating decoherence-free subspaces using strong and fast pulses. 2002 , 88, 207902 | 123 |
| 1978 Decoherence of quantum registers. 2002 , 65, | 146 |
| 1977 Time scales of phonon-induced decoherence of semiconductor spin qubits. 2002 , 65, | 29 |
| Hyperfine-mediated transitions between a Zeeman split doublet in GaAs quantum dots: The role of the internal field. 2002 , 66, | 126 |
| Electro-optical properties of semiconductor quantum dots: Application to quantum information processing. 2002 , 65, | 98 |
| 1974 Macroscopic entanglement jumps in model spin systems. 2002 , 66, | 86 |
| 1973 Information and computation: Classical and quantum aspects. 2002 , 74, 347-423 | 378 |
| 1972 Ferromagnetic III I V Semiconductors and Their Heterostructures. 2002 , 1-30 | 15 |

| 1971 Spin Dynamics in Semiconductors. 2002 , 107-145 | 9 |
|---|-----|
| 1970 Spins for Quantum Information Processing. 2002 , 221-227 | 2 |
| 1969 On designing sub-70-nm semiconductor materials and processes. 2002 , 15, 157-168 | 10 |
| 1968 Relaxation of Shallow Donor Electron Spin Due to Interaction with Nuclear Spin Bath. 2002 , 2, 651-655 | 23 |
| 1967 SHORT-TIME DECOHERENCE AND DEVIATION FROM PURE QUANTUM STATES. 2002 , 16, 459-465 | 18 |
| 1966 Electron Spins in Quantum Dots as Qubits for Quantum Information Processing. 2002 , 229-276 | 7 |
| 1965 Fullerene-based electron-spin quantum computer. 2002 , 65, | 258 |
| A single electron binary-decision-diagram quantum logic circuit based on Schottky wrap gate control of a GaAs nanowire hexagon. 2002 , 23, 446-448 | 46 |
| 1963 Single-qubit operations on the Kane quantum computer. 2002 , 13, 570-575 | 18 |
| 1962 Local control of dynamic nuclear polarization in quantum Hall devices. 2002 , 80, 4178-4180 | 51 |
| 1961 Decoherence and Fidelity of Single Qubit Operations in a Solid State Quantum Computer. 2002 , 247-250 | |
| 1960 Magnetic properties of n-GaMnN thin films. 2002 , 80, 3964-3966 | 310 |
| 1959 Efficient universal leakage elimination for physical and encoded qubits. 2002 , 89, 127901 | 67 |
| 1958 Coulomb interaction effects in spin-polarized transport. 2002 , 65, | 58 |
| 1957 Explaining strain [in silicon]. 2002 , 18, 36-39 | 10 |
| 1956 Extending the road beyond CMOS. 2002 , 18, 28-41 | 101 |
| 1955 . 2002 , 35, 79-87 | 8o |
| 1954 The Nature of Shallow-State Wave Functions in Semiconductors. 2002 , 232, 106-110 | |

| Spin-Dependent Recombination [An Electronic Readout Mechanism for Solid State Quant Computers. 2002 , 233, 427-435 | um 16 |
|--|--------------------------|
| 1952 Architectures for a Spin Quantum Computer Based on Endohedral Fullerenes. 2002 , 233, | 453-461 61 |
| 1951 OxideBemiconductor Materials for Quantum Computation. 2002 , 233, 467-471 | 7 |
| $_{ m 1950}$ Theory of Exciton Coherence and Decoherence in Semiconductor Quantum Dots. 2002 , 23 | 34, 115-129 ₇ |
| 1949 Exciton Rabi Oscillation in Single Isolated Quantum Dots. 2002 , 190, 485-490 | 3 |
| 1948 Achievement of a 920-MHz high resolution NMR. 2002 , 156, 318-21 | 25 |
| 1947 Ultrafast quantum information processing in nanostructured semiconductors. 2002 , 31, 1 | 07-116 |
| Quantum computation and the production of entangled photons using coupled quantum 2002 , 31, 127-140 | dots. 4 |
| 1945 Simulation of Topological Field Theories¶by Quantum Computers. 2002 , 227, 587-603 | 151 |
| 1944 Quantum information processing using semiconductor nanostructures. 2002 , 314, 1-9 | 1 |
| 1943 Controlled couplings for Cooper-pair charge qubits. 2002 , 382, 431-436 | 2 |
| Electronic coupling of vertically coupled quantum dots: effect of the time-dependent may field. 2002 , 88, 213-219 | gnetic 1 |
| Similarities between single charge and Josephson effects and devices. A fast and sensitive frequency single electron transistor. 2002 , 19, 333-337 | e radio |
| Nuclear spin based memory and logic in quantum Hall semiconductor nanostructures for computing applications. 2002 , 12, 152-156 | quantum 24 |
| 1939 Detection of electron scattering in an isolated double quantum dot system. 2002 , 12, 830 |)-832 12 |
| 1938 Transfer of spin orientation into electric current in quantum wells. 2002 , 13, 552-555 | |
| 1937 Quantum gates using tunneling electron spins of a quantum-dot chain. 2002 , 13, 616-619 | 5 |
| Manipulation and measurement of nuclear spin over the quantum Hall regime for quantu information processing. 2002 , 32, 261-273 | m 4 |

1935 Local control of nuclear-spin system in a quantum-Hall device. **2002**, 32, 275-282

| 1934 | Phosphorus-doped Si nanocrystallites embedded in SiO2 films. 2002 , 197-198, 670-673 | | 9 |
|------|---|------|-----|
| 1933 | Entanglement of two interacting electrons in a double quantum dot. 2002 , 294, 108-112 | | 4 |
| 1932 | Pairwise thermal entanglement in the n-qubit (n?5) Heisenberg XX chain. 2002 , 300, 567-572 | | 22 |
| 1931 | Nuclear spin maser with an artificial feedback mechanism. 2002 , 304, 13-20 | | 43 |
| 1930 | Introduction to solid-state quantum computation for engineers. 2002 , 33, 171-177 | | 9 |
| 1929 | Modelling of electrostatic gate operations in the Kane solid state quantum computer. 2002 , 33, 1053-10 |)58 | 8 |
| 1928 | Quantum computer hardware based on rare-earth-ion-doped inorganic crystals. 2002, 201, 71-77 | | 131 |
| 1927 | Gate-voltage control of spin interactions between electrons and nuclei in a semiconductor. <i>Nature</i> , 2002 , 415, 281-6 | 50.4 | 183 |
| 1926 | Nanotechnology. Beyond the silicon roadmap. <i>Nature</i> , 2002 , 419, 573, 575 | 50.4 | 50 |
| 1925 | Ecology. Biodiversity in the scales. <i>Nature</i> , 2002 , 419, 575-6 | 50.4 | 20 |
| 1924 | Spin relaxation in asymmetrical heterostructures. 2002 , 36, 91-97 | | 21 |
| 1923 | On a physical implementation of logical operators NOT and CNOT in a two-qubit quantum computer controlled by ultrashort optical pulses. 2002 , 94, 882-891 | | 3 |
| 1922 | Isotope-pure 28Si layers grown by VPE. 2002 , 36, 1398-1399 | | |
| 1921 | Isotope-pure silicon layers grown by MBE. 2002 , 36, 1400-1402 | | 1 |
| 1920 | Impurity entanglement in three-qubit Heisenberg XX chain. 2002 , 297, 291-299 | | 25 |
| 1919 | Molecular transistors as open fermionic quantum systems. 2002 , 313, 488-502 | | 1 |
| 1918 | A simulator for ensemble quantum computing. 2002 , 144, 277-283 | | |

| 1917 Quantum computing with spin qubits in semiconductor structures. 2002 , 146, 331-338 | 25 |
|---|-----|
| 1916 Self-assembled Ge quantum dots on Si and their applications. 2002 , 237-239, 1892-1897 | 43 |
| 1915 Semiconductor spintronics. 2002 , 1, 19-31 | 101 |
| 1914 Universal quantum computation with spin-1/2 pairs and Heisenberg exchange. 2002 , 89, 147902 | 294 |
| 1913 Effect of Isotopic Composition on the Electron Paramagnetic Resonance in Silicon1. 2002 , 38, 320-324 | 1 |
| Separation of Silicon Isotopes in IR Multiphonon Dissociation of Trifluorophenylsilane Induced by a Free-Electron Laser. 2002 , 385, 189-191 | 2 |
| 1911 Si/Ge nanostructures. 2002 , 65, 27-72 | 415 |
| New Methods for Making the Qubits of a Solid-State Quantum Computer by Implantation of Single Highly Charged 31P Ions. 2003 , 32, 347-354 | |
| 1909 Quantum communication through an unmodulated spin chain. 2003 , 91, 207901 | 970 |
| 1908 Optical schemes for quantum computation in quantum dot molecules. 2003 , 68, | 133 |
| 1907 Shallow donor electron spins as qubits in Si and SiGe: a pulsed ESR study. 2003 , 340-342, 895-902 | 10 |
| 1906 Playing with quantum Hall effects and single-electron-tunneling effects. 2003 , 33, 405-423 | |
| 1905 Toward a scalable, silicon-based quantum computing architecture. 2003 , 9, 1552-1569 | 43 |
| 1904 The future of nanocomputing. 2003 , 36, 44-53 | 64 |
| IBIC characterisation of novel detectors for single atom doping of quantum computer devices. 2003 , 210, 186-190 | 5 |
| The twin radio frequency single electron transistor for correlated charge detection on microsecond time-scales. 2003 , 67-68, 775-781 | 7 |
| Double-island single-electron transistor for noise-suppressed detection of charge transfer. 2003 , 67-68, 826-831 | 5 |
| 1900 Pulsed EPR studies of shallow donor impurities in SiC. 2003, 340-342, 903-907 | 11 |

| 1899 | Application of quantum Hall edge channels. 2003 , 20, 43-56 | 7 | 7 |
|------|--|------------|-----|
| 1898 | Numerical methods for semiconductor heterostructures with band nonparabolicity. 2003 , 190, 141-158 | 2 | 25 |
| 1897 | Silicon-based all-optical memory elements for 1.54 th photonics. 2003 , 47, 165-168 | ۷ | 4 |
| 1896 | Critical issues in the formation of atomic arrays of phosphorus in silicon for the fabrication of a solid-state quantum computer. 2003 , 532-535, 678-684 | 8 | 8 |
| 1895 | Single electron devices for simulating read-out in a solid state quantum computer. 2003 , 532-535, 1199-120 | 3 1 | 1 |
| 1894 | Towards the atomic-scale fabrication of a silicon-based solid state quantum computer. 2003 , 532-535, 1209-1218 | 2 | 23 |
| 1893 | Novel process of isotope separation of silicon by use of IR FEL. 2003 , 507, 552-555 | 1 | 1 |
| 1892 | Decoherence free in subspace using Na@C60 as quantum qubit. 2003 , 313, 21-28 | ϵ | 6 |
| 1891 | Kinetic equation, non-perturbative approach and decoherence free subspace for quantum open system. 2003 , 322, 345-358 | 1 | 14 |
| 1890 | General nonequilibrium statistical ensemble formalism and its application to quantum computing. 2003 , 327, 425-441 | 3 | 3 |
| 1889 | Spin relaxation and g-factor of two-dimensional electrons in Si/SiGe quantum wells. 2003, 16, 111-120 | 2 | 21 |
| 1888 | Electrical control of spin precession in semiconductor quantum wells. 2003 , 16, 99-103 | 1 | 11 |
| 1887 | Pulsed-mode operation of nuclear spin polarization in integer quantum Hall systems. 2003 , 18, 128-129 | | |
| 1886 | Quantum information technology. 2003 , 6, 30-36 | 4 | 4 |
| 1885 | Overview of spin-based quantum dot quantum computation. 2003 , 238, 360-365 | 1 | 17 |
| 1884 | Demonstration of an all-optical quantum controlled-NOT gate. <i>Nature</i> , 2003 , 426, 264-7 50. | 4 6 | 651 |
| 1883 | Direct observation of attosecond light bunching. <i>Nature</i> , 2003 , 426, 267-71 | 4 3 | 307 |
| 1882 | Quantum computing: Putting it into practice. <i>Nature</i> , 2003 , 421, 28-9 | 4 5 | 5 |

| 1881 | Neurobiology: The importance of depression. <i>Nature</i> , 2003 , 421, 29-30 | 50.4 | 7 |
|------|---|------|-----|
| 1880 | Computing: quantum bits and silicon chips. <i>Nature</i> , 2003 , 424, 484-6 | 50.4 | 7 |
| 1879 | Solid-state physics: drawing quantum circuitry. <i>Nature</i> , 2003 , 424, 730-1 | 50.4 | |
| 1878 | Global change: the heat on Lake Tanganyika. <i>Nature</i> , 2003 , 424, 731-2 | 50.4 | 31 |
| 1877 | Spintronics and exchange engineering in coupled quantum dots. 2003 , 34, 485-489 | | 2 |
| 1876 | IIIIV nanoelectronics and related surface/interface issues. 2003, 212-213, 311-318 | | 7 |
| 1875 | STM investigation of epitaxial Si growth for the fabrication of a Si-based quantum computer. 2003 , 212-213, 319-324 | | 14 |
| 1874 | Entanglement and correlation for identical particles in quantum computing. 2003, 311, 443-458 | | 6 |
| 1873 | Natural two-qubit gate for quantum computation using the XY interaction. 2003, 67, | | 142 |
| 1872 | Solid state quantum computer development in silicon with single ion implantation. 2003 , 94, 7017-7024 | 1 | 83 |
| 1871 | Entanglement of solid-state qubits by measurement. 2003 , 67, | | 66 |
| 1870 | Quantum computing with spin cluster qubits. 2003 , 90, 047901 | | 208 |
| 1869 | Spin dephasing in quantum wires. 2003 , 68, | | 64 |
| 1868 | Electron exchange coupling for single-donor solid-state spin qubits. 2003 , 68, | | 60 |
| 1867 | Theory of nuclear-induced spectral diffusion: Spin decoherence of phosphorus donors in Si and GaAs quantum dots. 2003 , 68, | | 204 |
| 1866 | Infrared Multiphoton Si Isotope Selective Dissociation of Phenyltrifluorosilane under Free Electron Laser Irradiation. 2003 , 107, 9362-9367 | | 8 |
| 1865 | Spin-swap gate in the presence of qubit inhomogeneity in a double quantum dot. 2003 , 68, | | 11 |
| 1864 | The classical and quantum theory of thermal magnetic noise, with applications in spintronics and quantum microscopy. 2003 , 91, 799-816 | | 29 |

(2003-2003)

| 1863 | Anomalies in the NMR of silicon: Unexpected spin echoes in a dilute dipolar solid. 2003, 68, | 38 |
|------|---|-----|
| 1862 | Quantum technology: the second quantum revolution. 2003 , 361, 1655-74 | 332 |
| 1861 | Practical design and simulation of silicon-based quantum-dot qubits. 2003, 67, | 203 |
| 1860 | . 2003 , 91, 761-780 | 51 |
| 1859 | Modeling and prospects for a solid-state quantum computer. 2003 , 9, 1874-1883 | 3 |
| 1858 | Effect of an inhomogeneous external magnetic field on the electronic coupling of quantum dot molecule. 2003 , 334, 250-256 | 1 |
| 1857 | Quantum computing with antiferromagnetic spin clusters. 2003 , 68, | 143 |
| 1856 | Enhanced thermal entanglement in an anisotropic Heisenberg XYZ chain. 2003, 68, | 191 |
| 1855 | Building quantum wires: the long and the short of it. | 6 |
| 1854 | Quantum interference between impurities: Creating novel many-body states in s-wave superconductors. 2003 , 67, | 44 |
| 1853 | Long-lived memory for mesoscopic quantum bits. 2003 , 90, 206803 | 198 |
| 1852 | Gigahertz electron spin manipulation using voltage-controlled g-tensor modulation. 2003, 299, 1201-4 | 215 |
| 1851 | Electron spin coherence in semiconductors: Considerations for a spin-based solid-state quantum computer architecture. 2003 , 67, | 126 |
| 1850 | Decoherence and gate performance of coupled solid-state qubits. 2003, 67, | 91 |
| 1849 | Magnetic properties of parabolic quantum dots in the presence of the spinBrbit interaction. 2003 , 94, 5891-5895 | 59 |
| 1848 | Electron spin relaxation times of phosphorus donors in silicon. 2003 , 68, | 326 |
| 0 | | |
| 1847 | Electron spin dynamics in quantum dots and related nanostructures due to hyperfine interaction with nuclei. 2003 , 15, R1809-R1833 | 168 |

| 1845 | Probing the spin state of a single electron trap by random telegraph signal. 2003 , 91, 078301 | 36 |
|------|--|-----|
| 1844 | T-shaped spin filter with a ring resonator. 2003 , 94, 4001-4005 | 92 |
| 1843 | Growth and characterization of 28Sin/30Sin isotope superlattices. 2003 , 83, 2318-2320 | 41 |
| 1842 | Quantum decoherence in qubit devices. 2003 , 5115, 308 | |
| 1841 | Enhancement of thermal entanglement in two-qubit XY models. 2003 , 5, 73-76 | 24 |
| 1840 | Progress in silicon-based quantum computing. 2003 , 361, 1451-71 | 49 |
| 1839 | Nonideality of quantum operations with the electron spin of a 31P donor in a Si crystal due to interaction with a nuclear spin system. 2003 , 67, | 25 |
| 1838 | Numerical study of hydrogenic effective mass theory for an impurity P donor in Si in the presence of an electric field and interfaces. 2003 , 68, | 43 |
| 1837 | Measuring the decoherence rate in a semiconductor charge qubit. 2003 , 68, | 66 |
| 1836 | Quantum computing in the presence of spontaneous emission by a combined dynamical decoupling and quantum-error-correction strategy. 2003 , 68, | 22 |
| 1835 | Gate-induced ionization of single dopant atoms. 2003 , 68, | 30 |
| 1834 | Double and single peaks in nuclear magnetic resonance spectra of natural and 29Sillnriched single-crystal silicon. 2003 , 68, | 27 |
| 1833 | Rashba effect in two-dimensional mesoscopic systems with transverse magnetic field. 2003 , 68, | 29 |
| 1832 | Coherent control of nuclear-spin system in a quantum-Hall device. 2003 , 82, 409-411 | 81 |
| 1831 | Magnetic field tuning of the effective g factor in a diluted magnetic semiconductor quantum dot. 2003 , 82, 2661-2663 | 52 |
| 1830 | Andreev level qubit. 2003 , 90, 087003 | 95 |
| 1829 | Quantum computing with an always-on Heisenberg interaction. 2003 , 90, 247901 | 147 |
| 1828 | Hydrogenic spin quantum computing in silicon: a digital approach. 2003 , 90, 087901 | 145 |

| 1827 | Electrical manipulation of nanomagnets. 2003 , 91, 088301 | 11 |
|------|---|-----|
| 1826 | Laser interaction with a pair of two-dimensional coupled quantum dots. 2003 , 94, 2579-2584 | 6 |
| 1825 | Multiple quantum spin dynamics of entanglement. 2003 , 68, | 29 |
| 1824 | Error rate of the Kane quantum computer controlled-NOT gate in the presence of dephasing. 2003 , 67, | 13 |
| 1823 | Single-spin measurement in the solid state: A reader for a spin qubit. 2003 , 67, | 6 |
| 1822 | Fast nonadiabatic two-qubit gates for the Kane quantum computer. 2003 , 68, | 22 |
| 1821 | Entanglement in the one-dimensional Kondo necklace model. 2003 , 67, | 18 |
| 1820 | Quantum-cellular-automata quantum computing with endohedral fullerenes. 2003, 67, | 94 |
| 1819 | Quantum-size-effect-enhanced dynamic magnetic interactions among doped spins in Cd1⊠MnxSe nanocrystals. 2003 , 83, 3377-3379 | 31 |
| 1818 | Capacitively coupled Josephson junctions: A two-qubit system. 2003 , 13, 994-1000 | 10 |
| 1817 | Experimental realization of a fetching algorithm in a 7-qubit NMR spin Liouville space computer. 2003 , 119, 8473-8481 | 46 |
| 1816 | Triplet superconductors from the viewpoint of basic elements for quantum computers. 2003 , 13, 944-947 | 1 |
| 1815 | Spin current through a quantum dot in the presence of an oscillating magnetic field. 2003 , 91, 196602 | 107 |
| 1814 | Disentangling the exchange coupling of entangled donors in the Si quantum computer architecture. 2003 , 90, 067401 | 15 |
| 1813 | Electrical detection of spin coherence in silicon. 2003 , 91, 246603 | 46 |
| 1812 | Pseudospin quantum computation in semiconductor nanostructures. 2003 , 91, 167903 | 11 |
| 1811 | A scheme for electrical detection of single-electron spin resonance. 2003 , 90, 018301 | 48 |
| 1810 | Current suppression in a double-island single-electron transistor for detection of degenerate charge configurations of a floating double-dot. 2003 , 83, 4640-4642 | 6 |

| 1809 | Scalable quantum processor with trapped electrons. 2003 , 91, 017901 | 52 |
|------------------------------|---|---|
| 1808 | Qutrit quantum computer with trapped ions. 2003 , 67, | 112 |
| 1807 | Triplet superconductivity and magnetoelectric effect near the s-wave-superconductor□ normal-metal interface caused by local breaking of mirror symmetry. 2003 , 67, | 58 |
| 1806 | Electric field tunability of nuclear and electronic spin dynamics due to the hyperfine interaction in semiconductor nanostructures. 2003 , 90, 237601 | 14 |
| 1805 | Decoherence-Free Subspaces and Subsystems. 2003 , 83-120 | 123 |
| 1804 | Atomically precise placement of single dopants in si. 2003 , 91, 136104 | 283 |
| 1803 | Dephasing in an isolated double-quantum-dot system deduced from single-electron polarization measurements. 2003 , 67, | 33 |
| 1802 | Quantum superposition of charge states on capacitively coupled superconducting islands. 2003, 67, | 2 |
| 1801 | Inelastic tunneling spectroscopy in a d-wave superconductor. 2003 , 68, | 20 |
| | | |
| 1800 | Spatial imaging of magnetically patterned nuclear spins in GaAs. 2003, 68, | 24 |
| 1800 1799 | Spatial imaging of magnetically patterned nuclear spins in GaAs. 2003, 68, Correlated charge detection for readout of a solid-state quantum computer. 2003, 82, 577-579 | 24 |
| | Correlated charge detection for readout of a solid-state quantum computer. 2003 , 82, 577-579 | |
| 1799 | Correlated charge detection for readout of a solid-state quantum computer. 2003 , 82, 577-579 Realistic simulations of single-spin nondemolition measurement by magnetic resonance force | 29 |
| 1799 1798 | Correlated charge detection for readout of a solid-state quantum computer. 2003 , 82, 577-579 Realistic simulations of single-spin nondemolition measurement by magnetic resonance force microscopy. 2003 , 68, Rabi oscillations, coherent properties, and model qubits in two-level donor systems under terahertz radiation. 2003 , 68, | 29 |
| 1799 1798 1797 | Correlated charge detection for readout of a solid-state quantum computer. 2003 , 82, 577-579 Realistic simulations of single-spin nondemolition measurement by magnetic resonance force microscopy. 2003 , 68, Rabi oscillations, coherent properties, and model qubits in two-level donor systems under terahertz radiation. 2003 , 68, | 29236 |
| 1799 1798 1797 1796 | Correlated charge detection for readout of a solid-state quantum computer. 2003, 82, 577-579 Realistic simulations of single-spin nondemolition measurement by magnetic resonance force microscopy. 2003, 68, Rabi oscillations, coherent properties, and model qubits in two-level donor systems under terahertz radiation. 2003, 68, Hysteretic dynamic nuclear polarization in GaAs/AlxGa1NAs (110) quantum wells. 2003, 68, Spin-selective transport through Fe/AlOx/GaAs(100) interfaces under optical spin orientation. 2003 | 29 23 6 16 |
| 1799 1798 1797 1796 | Correlated charge detection for readout of a solid-state quantum computer. 2003, 82, 577-579 Realistic simulations of single-spin nondemolition measurement by magnetic resonance force microscopy. 2003, 68, Rabi oscillations, coherent properties, and model qubits in two-level donor systems under terahertz radiation. 2003, 68, Hysteretic dynamic nuclear polarization in GaAs/AlxGa1\(\mathbb{Q}\)As (110) quantum wells. 2003, 68, Spin-selective transport through Fe/AlOx/GaAs(100) interfaces under optical spin orientation. 2003, 68, | 29 23 6 16 31 |

| 1791 | Entanglement in quantum computers described by the XXZ model with defects. 2003, 67, | 72 |
|------|--|----|
| 1790 | Quantum Adiabatic Evolution Algorithm for a Quantum Neural Network. 2003 , 951-958 | 2 |
| 1789 | Challenges in Surface Science for a P-in-Si Quantum Computer IPhosphine Adsorption/Incorporation and Epitaxial Si Encapsulation. 2003 , 10, 415-423 | 2 |
| 1788 | Modelling single-electron-transistor-based readout in the Kane solid-state quantum computer. 2003 , 14, 161-164 | 5 |
| 1787 | Quantum computing in the solid state: the challenge of decoherence. 2003 , 361, 1441-50 | 14 |
| 1786 | METHOD FOR IMPLEMENTATION OF UNIVERSAL QUANTUM LOGIC GATES IN A SCALABLE ISING SPIN QUANTUM COMPUTER. 2003 , 01, 51-77 | 19 |
| 1785 | Quantum Information Science from the Perspective of a Device and Materials Engineer. 2003, 441-502 | |
| 1784 | Engineering the Electronic Structure and the Optical Properties of Semiconductor Quantum Dots. 2003 , 1-50 | |
| 1783 | Indirect hyperfine interaction between nuclear spin qubits in mesoscopic wires and rings. 2003, 15, 997-1006 | 20 |
| 1782 | Combined error correction techniques for quantum computing architectures. 2003 , 50, 1285-1297 | 13 |
| 1781 | Nuclear spin based quantum information processing at high magnetic fields. 2003, 14, 515-522 | 7 |
| 1780 | Quantum Computations with Transverse Modes of an Optical Field Propagating in Waveguides. 2003 , 20, 1426-1429 | 6 |
| 1779 | Numerical simulation of a quantum controlled-not gate implemented on four-spin molecules at room temperature. 2003 , 5, 184-189 | 6 |
| 1778 | Non-ideal monitoring of a qubit state using a quantum tunnelling device. 2003 , 15, 8055-8064 | 14 |
| 1777 | Application of magnetic resonance force microscopy cyclic adiabatic inversion for a single-spin measurement. 2003 , 36, 4417-4432 | 11 |
| 1776 | A pseudo-spin surface-acoustic-wave quantum computer. 2003 , 361, 1487-92 | 11 |
| 1775 | Optimal control of one-qubit gates. 2003 , 36, 841-849 | 2 |
| 1774 | Technology computer-aided design modelling of single-atom doping for fabrication of buried nanostructures. 2003 , 14, 157-160 | 9 |

| 1773 | The effect of communication costs in solid-state quantum computing architectures. 2003, | 10 |
|------|--|----|
| 1772 | Building quantum wires. 2003 , | 19 |
| 1771 | Triplet superconductors as the basis for solid-state quantum computing. 2003 , 5, S619-S626 | 1 |
| 1770 | Single-particle quantum tunnelling in ionic traps. 2003 , 5, 237-242 | 1 |
| 1769 | The effect of confinement on the hyperfine exchange interaction. 2003 , 15, 8673-8677 | |
| 1768 | Building quantum wires. 2003 , 31, 374-387 | 5 |
| 1767 | Artificial atoms and molecules for spintronic applications. | |
| 1766 | Decoherence of quantum states and its suppression in ensemble large-scale solid state NMR quantum computers. 2003 , 5128, 182 | |
| 1765 | Quantum Chaos and Quantum Computing. 2003, 72, 157-164 | 1 |
| 1764 | Epitaxial metallic electrodes, quantum dots, and wires for application in solid state qubit technology. 2003 , | |
| 1763 | Electron Muclear Spin Interaction in Edge States of Quantum Hall Systems. 2003, 72, 44-48 | 1 |
| 1762 | Practical Quantum Computing. 2003, 237-250 | |
| 1761 | Perturbation approach for nuclear magnetic resonance solid-state quantum computation. 2003 , 2003, 35-53 | 2 |
| 1760 | Indirect SpinBpin Coupling in InP Investigated by Triple-Resonance NMR under Magic-Angle Spinning. 2004 , 73, 1045-1049 | 5 |
| 1759 | Semiconductor Nanostructures for Quantum Computation. 2004 , 315-326 | |
| 1758 | Quantum nonlocality of Heisenberg XX model with site-dependent coupling strength. 2004 , 37, 11475-11483 | 2 |
| 1757 | Limitations of silicon devices for quantum computing. 2004 , 16, V11-V12 | 3 |
| 1756 | Few-electron double quantum dots. 2004 , 15, 609-613 | 21 |

| 1755 | Voltage control of exchange coupling in phosphorus doped silicon. 2004 , 16, 5697-5704 | 11 |
|------|--|----|
| 1754 | Single ion implantation with scanning probe alignment. 2004 , 22, 2992 | 10 |
| 1753 | Formation of 15nm scale Coulomb blockade structures in silicon by electron beam lithography with a bilayer resist process. 2004 , 22, 3115 | 8 |
| 1752 | Group-theoretical analysis of double acceptors in a magnetic field: Identification of the Si:B+ground state. 2004 , 69, | 2 |
| 1751 | Entanglement and quantum phases in the anisotropic ferromagnetic Heisenberg chain in the presence of domain walls. 2004 , 70, | 35 |
| 1750 | Quantum computing in arrays coupled by Elways-onlinteractions. 2004, 70, | 38 |
| 1749 | Stop bands and defect modes in a magnonic chain of cells showing single-cell spectral gaps. 2004 , 69, | 11 |
| 1748 | Nanoscale electrical characterization of trap-assisted quasibreakdown fluctuations in SiO2. 2004 , 84, 3142-3144 | 5 |
| 1747 | Spin-orbit splitting of the cyclotron resonance in GaAs. 2004 , 70, | 9 |
| 1746 | NMR tomography of the three-qubit Deutsch-Jozsa algorithm. 2004 , 70, | 17 |
| 1745 | Observing sub-microsecond telegraph noise with the radio frequency single electron transistor. 2004 , 96, 6827-6830 | 20 |
| 1744 | Resonant pulse operations on the buried donor charge qubits in semiconductors. 2004 , 70, | 15 |
| 1743 | Logical operations realized on the Ising chain of N qubits. 2004 , 70, | 1 |
| 1742 | Designing robust gate implementations for quantum-information processing. 2004, 69, | 9 |
| 1741 | Scaling of decoherence in wide NMR quantum registers. 2004 , 93, 090501 | 93 |
| | | |
| 1740 | Monte Carlo method for a quantum measurement process by a single-electron transistor. 2004 , 70, | 17 |
| 1740 | Monte Carlo method for a quantum measurement process by a single-electron transistor. 2004 , 70, Stark effect in shallow impurities in Si. 2004 , 70, | 38 |

| 1737 | Mimicking time evolution within a quantum ground state: Ground-state quantum computation, cloning, and teleportation. 2004 , 70, | 10 |
|------|---|-----|
| 1736 | Direct observation by resonant tunneling of the B+ level in a Edoped silicon barrier. 2004, 69, | 10 |
| 1735 | Short-time decoherence for general system-environment interactions. 2004 , 69, | 50 |
| 1734 | Noninvasive detection of the evolution of the charge states of a double dot system. 2004 , 69, | 15 |
| 1733 | Selective pulse implementation of two-qubit gates for spin-32-based fullerene quantum-information processing. 2004 , 70, | 19 |
| 1732 | Single-qubit gates and measurements in the surface acoustic wave quantum computer. 2004 , 70, | 27 |
| 1731 | Phosphine dissociation on the Si(001) surface. 2004 , 93, 226102 | 58 |
| 1730 | Chirality in quantum computation with spin cluster qubits. 2004 , 93, 120503 | 38 |
| 1729 | Spin readout and initialization in a semiconductor quantum dot. 2004 , 92, 037901 | 45 |
| 1728 | Polarization of nuclear spins from the conductance of quantum wire. 2004 , 93, 126601 | 24 |
| 1727 | Suppression of spin diffusion near a micron-size ferromagnet. 2004 , 92, 037205 | 21 |
| 1726 | Nuclear spin qubits in a pseudospin quantum chain. 2004 , 69, | 8 |
| 1725 | Shallow-donor wave functions and donor-pair exchange in silicon: Ab initio theory and floating-phase Heitler-London approach. 2004 , 70, | 44 |
| 1724 | Mediated entanglement and correlations in a star network of interacting spins. 2004, 69, | 119 |
| 1723 | Electric-field control and adiabatic evolution of shallow donor impurities in silicon. 2004, 69, | 69 |
| 1722 | STM characterization of the Si-P heterodimer. 2004 , 69, | 34 |
| 1721 | Evolution of localized electron spin in a nuclear spin environment. 2004 , 70, | 75 |
| 1720 | Modeling of optical detection of spin-polarized carrier injection into light-emitting devices. 2004 , 69, | 1 |

| 1719 | Nuclear spin relaxation probed by a single quantum dot. 2004 , 69, | 27 |
|------|---|-----|
| 1718 | Experimental Hamiltonian identification for controlled two-level systems. 2004, 69, | 46 |
| 1717 | Parity measurement of one- and two-electron double well systems. 2004 , 70, | 14 |
| 1716 | All-electrical quantum computation with mobile spin qubits. 2004 , 69, | 28 |
| 1715 | Magneto-optical rotation and cross-phase modulation via coherently driven four-level atoms in a tripod configuration. 2004 , 70, | 164 |
| 1714 | Gates for the Kane quantum computer in the presence of dephasing. 2004 , 70, | 11 |
| 1713 | Present status and critical issues of III-V nanoelectronics. | |
| 1712 | Trapped electrons in vacuum for a scalable quantum processor. 2004 , 70, | 22 |
| 1711 | One-spin quantum logic gates from exchange interactions and a global magnetic field. 2004 , 93, 030501 | 29 |
| 1710 | Experimental investigation of a two-qubit decoherence-free subspace. 2004 , 92, 147901 | 72 |
| 1709 | Quantum corrals, eigenmodes, and quantum mirages in s-wave superconductors. 2004 , 92, 107006 | 23 |
| 1708 | Silicon quantum computation based on magnetic dipolar coupling. 2004, 70, | 53 |
| 1707 | Spin dynamics at very high spin polarization. 2004 , 70, | 11 |
| 1706 | Coherent optical control of spin-spin interaction in doped semiconductors. 2004 , 70, | 16 |
| 1705 | Continuous quantum measurement: inelastic tunneling and lack of current oscillations. 2004 , 92, 136802 | 40 |
| 1704 | Self-sustaining resistance oscillations: Electron-nuclear spin coupling in mesoscopic quantum Hall devices. 2004 , 69, | 7 |
| 1703 | Quantum entanglement of many atoms in spinor Bose-Einstein condensates. 2004, 69, | 8 |
| 1702 | Controlled hole burning in the Fock space via conditional measurements on beam splitters. 2004 , 70, | 26 |

| 1701 Quantum-error correction on linear-nearest-neighbor qubit arrays. 2004 , 69, | 40 |
|--|----|
| 1700 Electron and hole states in diluted magnetic semiconductor quantum dots. 2004 , 69, | 32 |
| 1699 Completely positive non-Markovian decoherence. 2004 , 70, | 30 |
| 1698 Theory of optical orientation in n-type semiconductors. 2004 , 70, | 26 |
| Optical detection of the spin state of a single nucleus in silicon. 2004 , 69, | 27 |
| 1696 Multiqubit maximally entangled states in the NMR model. 2004 , 70, | 4 |
| 1695 Single-spin readout for buried dopant semiconductor qubits. 2004 , 69, | 32 |
| Theoretical investigation of a protected quantum bit in a small Josephson junction array with tetrahedral symmetry. 2004 , 69, | 2 |
| 1693 Dynamical decoupling using slow pulses: Efficient suppression of 1/f noise. 2004 , 69, | 66 |
| 1692 Practical scheme for error control using feedback. 2004 , 69, | 54 |
| Charge shelving and bias spectroscopy for the readout of a charge qubit on the basis of superposition states. 2004 , 70, | 13 |
| 1690 Optically patterned nuclear doughnuts in GaAsMnAs heterostructures. 2004 , 85, 1184-1186 | 4 |
| 1689 Double quantum dot turnstile as an electron spin entangler. 2004 , 69, | 28 |
| 1688 Effects of biexcitons on exciton decoherence processes in InxGa1⊠As quantum dots. 2004 , 69, | 13 |
| Noninvasive lateral detection of Coulomb blockade in a quantum dot fabricated using atomic force microscopy. 2004 , 95, 2557-2559 | 12 |
| 1686 Weak localization thickness measurements of Si:P delta-layers. 2004 , 85, 6362-6364 | 14 |
| 1685 An Introduction to Semiconductor Spintronics. 2004 , 58, 1-72 | 15 |
| 1684 Ions, Atoms, and Bits: An Architectural Approach to Quantum Computing. 2004 , 61, 275-318 | |

| 1683 Teaching Undergraduates Nanotechnology. 2004 , 827, 151 | | 1 |
|--|--------------|--------------------------|
| 1682 Challenges in Reliable Quantum Computing. 2004 , 247-266 | | 3 |
| 1681 SPIN POLARON IN A QUANTUM DOT OF THE DILUTED MAGNETIC SEMICONDUCTORS. 2004 , 18, 419-42 | .6 | 21 |
| MINIMIZATION OF NONRESONANT EFFECTS IN A SCALABLE ISING SPIN QUANTUM COMPUTER. 2004 , 02, 379-392 | | 1 |
| 1679 NMR at 23.5 T by a resistive magnet in NIMS. 2004 , 14, 1632-1634 | | 2 |
| REALIZATION OF A TWO-QUBIT QUANTUM GATE UTILIZING EDGE STATES AROUND ANTIDOTS. 2004 , 03, 309-319 | | 2 |
| The effects of J-gate potential and interfaces on donor exchange coupling in the Kane quantum computer architecture. 2004 , 16, 1011-1023 | | 8 |
| Electron phase and spin decoherence in the vicinity of the second subband edge in an asymmetrical quantum well. 2004 , 16, 641-650 | | 4 |
| 1675 Dipolar coupling spin dynamics: perturbation approach. 2004 , 37, 8159-8166 | | |
| 1674 GEOMETRIC PHASE OF DICKE STATE OF EXCITONS IN N COUPLED QUANTUM DOTS. 2004 , 18, 1433-144 | 40 | 2 |
| | . • | 3 |
| Fast Non-Adiabatic Gates and Quantum Algorithms on the Kane Quantum Computer in the Presence of Dephasing. 2004 , | | 3 |
| 1671 | | 12 |
| Presence of Dephasing. 2004 , | 50.4 | |
| Presence of Dephasing. 2004, 1672 Datapath and control for quantum wires. 2004, 1, 34-61 1671 Single-shot read-out of an individual electron spin in a quantum dot. <i>Nature</i> , 2004, 430, 431-5 Electrical detection of the spin resonance of a single electron in a silicon field-effect transistor. | | 12 |
| Presence of Dephasing. 2004, 1672 Datapath and control for quantum wires. 2004, 1, 34-61 1671 Single-shot read-out of an individual electron spin in a quantum dot. <i>Nature</i> , 2004, 430, 431-5 1670 Electrical detection of the spin resonance of a single electron in a silicon field-effect transistor. <i>Nature</i> , 2004, 430, 435-9 | 50.4 | 12 1190 255 |
| Presence of Dephasing. 2004, 1672 Datapath and control for quantum wires. 2004, 1, 34-61 1671 Single-shot read-out of an individual electron spin in a quantum dot. <i>Nature</i> , 2004, 430, 431-5 1670 Electrical detection of the spin resonance of a single electron in a silicon field-effect transistor. <i>Nature</i> , 2004, 430, 435-9 | 50.4 | 12 1190 255 |
| Presence of Dephasing. 2004, Datapath and control for quantum wires. 2004, 1, 34-61 Single-shot read-out of an individual electron spin in a quantum dot. <i>Nature</i> , 2004, 430, 431-5 Electrical detection of the spin resonance of a single electron in a silicon field-effect transistor. <i>Nature</i> , 2004, 430, 435-9 Surface transfer doping of diamond. <i>Nature</i> , 2004, 430, 439-41 Optically programmable electron spin memory using semiconductor quantum dots. <i>Nature</i> , 2004, | 50.4 50.4 | 12 1190 255 226 |

| 1665 | Charge qubit rotations in a double-dot nanostructure. 2004 , 80, 503-506 | 12 |
|------|---|------|
| 1664 | Molecular dynamics simulations of ion implantation for the fabrication of a solid-state quantum computer. 2004 , 215, 99-108 | 4 |
| 1663 | Open questions in electronic sputtering of solids by slow highly charged ions with respect to applications in single ion implantation. 2004 , 219-220, 200-205 | 3 |
| 1662 | Spintronics: Fundamentals and applications. 2004 , 76, 323-410 | 8168 |
| 1661 | Quantum tomography for solid-state qubits. 2004 , 67, 874-880 | 21 |
| 1660 | Mirror inversion of quantum states in linear registers. 2004 , 93, 230502 | 196 |
| 1659 | Hydrogen control of ferromagnetism in a dilute magnetic semiconductor. 2004 , 92, 227202 | 69 |
| 1658 | Sculpturing coherent states to get highly excited Fock states for stationary and travelling fields. 2004 , 6, 351-359 | 24 |
| 1657 | Parallel Detection of Multiple Transitional Spectral Patterns Using Optical Spectrogram Scope. 2004 , 11, 72-75 | |
| 1656 | N@C60 and P@C60 as quantum bits. 2004 , 27, 123-132 | 24 |
| 1655 | Entanglement and Zeeman interaction in diluted magnetic semiconductor quantum dot. 2004 , 350, 305-312 | 3 |
| 1654 | The Road to a Silicon Quantum Computer. 2004 , 3, 105-113 | 4 |
| 1653 | Controlling Spin Qubits in Quantum Dots. 2004 , 3, 115-132 | 46 |
| 1652 | NMR Quantum Information Processing. 2004 , 3, 15-44 | 26 |
| 1651 | Quantum Computer Development with Single Ion Implantation. 2004, 3, 233-245 | 17 |
| 1650 | Spintronics and spintronics materials. 2004 , 53, 2357-2405 | 60 |
| 1649 | Proceedings of scanning 2004 April 27월9, 200 Washington, D.C., USA. 2004 , 26, 57-101 | 2 |
| 1648 | Zeeman coupling and Swap action in spin-based diluted magnetic semiconductor quantum dot quantum computer. 2004 , 1, 1976-1980 | |

(2004-2004)

| Spin-dependent transport in elemental and compound semiconductors and nanostructures. 2004 , 1, 2056-2093 | 19 |
|--|-----|
| 1646 Polynomial state of the electromagnetic field: generation and statistical properties. 2004 , 239, 359-366 | 5 3 |
| 1645 High field NMR up to 23.5T with a resistive magnet. 2004 , 346-347, 531-533 | 3 |
| STM imaging of buried P atoms in hydrogen-terminated Si for the fabrication of a Si:P quantum computer. 2004 , 464-465, 23-27 | 18 |
| 1643 Pr N interaction in Pr3+:Y2SiO5. 2004 , 107, 347-350 | 10 |
| 1642 Electrical manipulation of nuclear spins in quantum Hall devices. 2004 , 21, 921-927 | 4 |
| Non-invasive detection of the ionic and covalent charge states of an isolated double dot system. 2004 , 22, 522-525 | 2 |
| 1640 Magnetization of nuclear-spin-polarization-induced quantum ring. 2004 , 24, 82-86 | 4 |
| 1639 Entangled Bell states of two electrons in coupled quantum dotsphonon decoherence. 2004 , 24, 234-24 | 3 5 |
| 1638 Coherent electrical manipulation of nuclear spins in semiconductors. 2004 , 25, 142-149 | 7 |
| 1637 Generation of states for electromagnetic fields. 2004 , 329, 284-293 | 8 |
| 1636 Quantum CPF gates between rare earth ions through measurement. 2004 , 330, 137-141 | 16 |
| States of the quantized electromagnetic field with highly concentrated phase distribution. 2004 , 331, 366-373 | 5 |
| 1634 Generation of superpositions of squeezed states for optical fields. 2004 , 231, 297-302 | 3 |
| Formation of Si-based nano-island array on porous anodic alumina. 2004 , 52, 5633-5637 | 9 |
| Two-dimensional nuclear magnetic resonance spectroscopy in optically pumped semiconductors. 2004, 397, 96-100 | 9 |
| Non-Markovian dynamics in a spin star system: Exact solution and approximation techniques. 2004 , 70, | 190 |
| 1630 Charge detection enables free-electron quantum computation. 2004 , 93, 020501 | 137 |

| 1629 | Toward Atomic-Scale Device Fabrication in Silicon Using Scanning Probe Microscopy. 2004 , 4, 1969-1973 | 128 |
|------|--|-----|
| 1628 | A novel quantum evolutionary algorithm and its application. | 3 |
| 1627 | A study on neuromorphic quantum computation. | 0 |
| 1626 | Spin filtering through multi-'-magnetic-barrier structures. 2004 , 19, 930-934 | 2 |
| 1625 | Nano, Quantum and Molecular Computing. 2004, | 23 |
| 1624 | Coulomb blockade in a silicon/silicongermanium two-dimensional electron gas quantum dot. 2004 , 84, 4047-4049 | 48 |
| 1623 | Overview of quantum error prevention and leakage elimination. 2004 , 51, 2449-2460 | 36 |
| 1622 | Robustness of readout devices for Si-based quantum computing. | |
| 1621 | Entanglement and quantum computing with ballistic electrons. 2004 , 19, S113-S117 | 7 |
| 1620 | A genetic algorithm based on quantum chromosome. | 2 |
| 1619 | Universal quantum computation through control of spin-orbit coupling. 2004 , 93, 140501 | 66 |
| 1618 | Thermal entanglement of spins in the Heisenberg model at low temperatures. 2004, 70, | 35 |
| 1617 | BACK MATTER. 2004 , 349-381 | |
| 1616 | Split-off dimer defects on the Si(001)2¶ surface. 2004 , 69, | 22 |
| 1615 | Valley splitting in low-density quantum-confined heterostructures studied using tight-binding models. 2004 , 70, | 88 |
| 1614 | Nuclear Magnetic Resonance Quantum Computation. 2004 , 79, 357-400 | |
| 1613 | Decoherence of two Josephson charge qubits coupled via $\[mathbb{M}\]$ 2. Type coupling and exposed to $\[mathbb{M}\]$ 2. noise. 2004 , 69, | 3 |
| 1612 | Gate Errors in Solid-State Quantum Computer Architectures. 2004 , 193-199 | |

1611 Quantum Computing with Electron Spins in Quantum Dots. 2004, 201-209

| Observation of coherent oscillation of a single nuclear spin and realization of a two-qubit conditional quantum gate. 2004 , 93, 130501 | 524 |
|--|-----|
| 1609 Charge-based quantum computing using single donors in semiconductors. 2004 , 69, | 237 |
| 1608 Quantum confinement in phosphorus-doped silicon nanocrystals. 2004 , 92, 046802 | 144 |
| Quantum logic gates using Stark-shifted Raman transitions in a cavity. 2004 , 69, | 72 |
| 1606 Method of extending hyperfine coherence times in Pr3+:Y2SiO5. 2004 , 92, 077601 | 124 |
| 1605 Quantum Computation by Electron Spin in SiGe Heterostructures. 2004 , 465-476 | 1 |
| 1604 Multi-qubit gates in arrays coupled by 'always-on' interactions. 2004 , 6, 61-61 | 14 |
| Observation of coherent oscillations in a single electron spin. 2004 , 92, 076401 | 712 |
| 1602 Quantum Computing and Quantum Bits in Mesoscopic Systems. 2004 , | 18 |
| 1601 Probing the spin state of a single magnetic ion in an individual quantum dot. 2004 , 93, 207403 | 311 |
| 1600 Error rate of a charge qubit coupled to an acoustic phonon reservoir. 2004 , 69, | 111 |
| Nanostructured surfaces: challenges and frontiers in nanotechnology. 2004 , 16, S1373-S1436 | 181 |
| 1598 Perfect state transfer in quantum spin networks. 2004 , 92, 187902 | 806 |
| Spontaneous currents in Josephson junctions between unconventional superconductors and d-wave qubits (Review). 2004 , 30, 535-553 | 11 |
| Tunnel current control of relaxation of a nuclear spin placed on a nanomechanical oscillator. 2004 , 19, S375-S376 | |
| 1595 Electron-spin phase relaxation of phosphorus donors in nuclear-spin-enriched silicon. 2004 , 70, | 86 |
| 1594 Course 9 Solid state quantum bit circuits. 2005 , 81, 537-575 | |

1593 Quantum Information Processing with Defects. **2005**, 150-161

| 1592 After the transistor, the qubit?. 2005 , 7, 36-41 | 3 |
|---|----|
| NMR Based Quantum Information Processing: Achievements and Prospects. 2005 , 105-137 | 3 |
| 1590 Fast donor-based electron spin quantum computing. 2005 , 5650, 44 | |
| Optimization of single keV ion implantation for the construction of single P-donor devices. 2005 , | |
| 1588 Channeling of heavy ions through multi-walled carbon nanotubes. 2005 , 228, 21-25 | 25 |
| Non-quantum implementation of quantum computation algorithm using a spatial coding technique. 2005 , 251, 124-131 | 3 |
| 1586 Magneto conductance for tunnelling through double magnetic barriers. 2005 , 25, 339-346 | 24 |
| Observation of Overhauser shift in a self-assembled InAlAs quantum dot. 2005 , 29, 510-514 | 7 |
| Quantum entanglement formation by repeated spin blockade measurements in a spin field-effect transistor structure embedded with quantum dots. 2005 , 29, 674-678 | 8 |
| Magnetic impurity effects on the entanglement of three-qubit Heisenberg XY chain with intrinsic decoherence. 2005 , 334, 109-116 | 28 |
| Interplay between anisotropic exchange coupling and the swap operation in the two-qubit Heisenberg XY model. 2005 , 339, 472-477 | 1 |
| Engineering antiferromagnetic Heisenberg spin chains for maximizing of the groundstate entanglement. 2005 , 342, 30-35 | 8 |
| $_{1580}$ Tunable entanglement of two-qubit XY model with in-plane magnetic fields. 2005 , 342, 375-380 | 7 |
| Tunable superconductive tunneling through diluted magnetic semiconductor heterostructures. 2005 , 344, 303-306 | 1 |
| 1578 Kinetic equations for quantum information. 2005 , 355, 319-332 | 7 |
| Double-well potential for a Josephson vortex qubit. 2005 , 424, 125-132 | 4 |
| Direct electrical measurement of the electron g factor in ultra-thin InGaAs/InP single quantum wells. 2005 , 36, 379-382 | 1 |

| Computer simulation of neutron transmutation doping of isotopically engineered heterostructures. 2005 , 228, 230-234 | 4 |
|---|-----|
| Ion beam induced charge and numerical modeling study of novel detector devices for single ion implantation. 2005 , 231, 463-466 | 4 |
| Non-destructive quantitative analysis of the Ge concentration in SiGe quantum wells by means of low energy RBS. 2005 , 240, 733-740 | 2 |
| 1572 Computing with spins: from classical to quantum computing. 2005 , 37, 77-86 | 20 |
| 1571 An all-silicon linear chain NMR quantum computer. 2005 , 133, 747-752 | 41 |
| 1570 Novel structure of single-electron two-channel multiplexer/demultiplexer. 2005 , 134, 571-576 | 1 |
| 1569 Voltage-controlled coded qubit based on electron spin. 2005 , 136, 508-512 | 54 |
| 1568 Dynamics of multiple quantum coherences in dipole-coupling spins in solid. 2005 , 28, 44-9 | 1 |
| Defect-induced dimer pinning on the Si(0 0 1) surface. 2005 , 587, 185-192 | 14 |
| Simulating the Deutschllozsa algorithm using vibrational states of I2 excited by optimally designed gate pulses. 2005 , 404, 126-131 | 54 |
| 1565 Decoherence in strongly coupled quantum oscillators. 2005 , 317, 72-106 | 25 |
| 1564 Quantum information processing and communication. 2005 , 36, 203-228 | 228 |
| 1563 Recipes for spin-based quantum computing. 2005 , 16, R27-R49 | 156 |
| 1562 Quantum Information. 2005 , 30, 99-104 | 2 |
| 1561 Auxiliary-level-assisted operations with charge qubits in semiconductors. 2005 , 100, 857-866 | 4 |
| 1560 Reliable performance. 2005 , 4, 799-800 | 5 |
| 1559 Nobel intentions. 2005 , 4, 800-800 | 1 |
| 1558 Dark spins come to light. 2005 , 1, 79-80 | O |

| 1557 | Controlled multiple quantum coherences of nuclear spins in a nanometre-scale device. <i>Nature</i> , 2005 , 434, 1001-5 | 160 |
|------|--|-----|
| 1556 | Enhancing semiconductor device performance using ordered dopant arrays. <i>Nature</i> , 2005 , 437, 1128-31 50.4 | 260 |
| 1555 | Challenges for quantum computing with solid-state devices. 2005 , 38, 65-69 | 8 |
| 1554 | Electronic properties of silicon nanowires. 2005 , 52, 1097-1103 | 151 |
| 1553 | Light-free magnetic resonance force microscopy for studies of electron spin polarized systems. 2005 , 286, 324-328 | 2 |
| 1552 | Single atom Si nanoelectronics using controlled single-ion implantation. 2005 , 78-79, 279-286 | 7 |
| 1551 | Double-island single-electron transistor operated at radio-frequency for sensitive and fast charge detection. 2005 , 78-79, 218-223 | 2 |
| 1550 | Multi-functional edge driven nano-scale cellular automata based on semiconductor tunneling nano-structure with a self-assembled quantum dot layer. 2005 , 37, 55-76 | 8 |
| 1549 | Spin quantum computation in silicon nanostructures. 2005 , 133, 737-746 | 61 |
| 1548 | Electron Spin Coherence of Phosphorus Donors in Isotopically Purified 29Si. 2005 , 18, 157-161 | 6 |
| 1547 | Spin-dependent current through a ferromagnetic resonant tunnelling quantum well. 2005 , 242, 1660-1678 | 11 |
| 1546 | Rashba spinBrbit effect on shot noise in ferromagnetic/semiconductor/ferromagnetic heterojunctions. 2005 , 242, 2960-2966 | 3 |
| 1545 | Silicon-based spin and charge quantum computation. 2005 , 77, 201-222 | 6 |
| 1544 | Towards the Routine Fabrication of P in Si Nanostructures: Understanding P Precursor Molecules on Si(001). 2005 , 864, 541 | 2 |
| 1543 | Editorial: Spintronics. 2005 , 152, 293 | |
| 1542 | Development of liquid-metal-ion source low-energy ion gun/high-temperature ultrahigh vacuum scanning tunneling microscope combined system. 2005 , 76, 126109 | 4 |
| 1541 | Can We Build a Large-Scale Quantum Computer Using Semiconductor Materials?. 2005, 30, 105-110 | 14 |
| 1540 | SILICON-BASED NUCLEAR SPIN QUANTUM COMPUTER. 2005 , 03, 27-40 | 4 |

Resistance Oscillations by Electron-Nuclear Spin Coupling in Microscopic Quantum Hall Devices. 1539 2005, 44, 2669-2671 Charge-State Control of Phosphorus Donors in Silicon-on-Insulator Metal-Oxide-Semiconductor Field-Effect Transistor. 2005, 44, 2588-2591 Quantum pumping and nuclear polarization in the integer quantum Hall regime. 2005, 69, 109-115 1537 2 Modelling single electron transfer in Si:P double quantum dots. 2005, 16, 74-81 1536 7 Towards deterministic optical quantum computation with coherently driven atomic ensembles. 26 1535 2005, 7, S141-S151 REALISTIC SIMULATIONS OF SINGLE-SPIN MEASUREMENT VIA MAGNETIC RESONANCE FORCE 2 MICROSCOPY. 2005, 03, 1-9 Carrier-Density-Dependent Electron Spin Relaxation in GaAs/AlGaAs Multi Quantum Wells. 2005, 2 1533 22, 2320-2323 Donor activation and damage in SiBiO2from low-dose, low-energy ion implantation studied via 12 electrical transport in MOSFETs. 2005, 20, 363-368 1531 Thin film resists for registration of single-ion impacts. 2005, 16, 823-826 1 NMR multiple-quantum dynamics with various initial conditions. 2005, 17, 4501-4509 18 Effects of the magnetic field in quantum computing with silicon. 2005, 17, V9-V11 1 Electron Buclear spin transfer in quantum-dot networks. 2005, 16, S266-S272 Elliptical orbits in the Bloch sphere. 2005, 7, S277-S282 5 1526 Growth and thermal stability of Ga(11) CrXN films. 2005, 86, 131901 8 Three-dimensional self-consistent simulation of single-qubit operation by modulation of the 5 1525 hyperfine interaction in phosphors-doped metal-oxide-semiconductor structure. 2005, 98, 093704 Spin filtering and spin-polarization reversal in multilayered ferromagnetic metal/semiconductor 15 heterostructures. 2005, 98, 053902 Single-shot readout with the radio-frequency single-electron transistor in the presence of charge 1523 27 noise. 2005, 86, 143117 1522 Molecular dissociation of group-V hydrides on Si(001). 2005, 72, 16

| 1521 | Optical pumping of Si29 nuclear spins in bulk silicon at high magnetic field and liquid helium temperature. 2005 , 71, | 32 |
|------|---|-----|
| 1520 | Controlled phase gate for solid-state charge-qubit architectures. 2005 , 71, | 10 |
| 1519 | Quantum-state transmission via a spin ladder as a robust data bus. 2005 , 71, | 111 |
| 1518 | Quantum corral wave-function engineering. 2005 , 71, | 13 |
| 1517 | Rashba control for the spin excitation of a fully spin-polarized vertical quantum dot. 2005, 71, | 17 |
| 1516 | Neuromorphic quantum computation with energy dissipation. 2005 , 72, | 10 |
| 1515 | Phosphine adsorption and dissociation on the Si(001) surface: An ab initio survey of structures. 2005 , 72, | 38 |
| 1514 | Fast quantum modular exponentiation. 2005 , 71, | 71 |
| 1513 | dc modulation in field-effect transistors operating under microwave irradiation for quantum readout. 2005 , 98, 044505 | 10 |
| 1512 | Entanglement and quantum-state engineering in the optically driven two-electron double-dot structure. 2005 , 72, | 26 |
| 1511 | Manifestations of the absence of spin diffusion in multipulse NMR experiments on diluted dipolar solids. 2005 , 72, | 20 |
| 1510 | Spin polarization in a two-dimensional electron gas modulated periodically by ferromagnetic and Schottky metal stripes. 2005 , 72, | 49 |
| 1509 | Generation of quantum logic operations from physical Hamiltonians. 2005, 71, | 24 |
| 1508 | Thermal entanglement between alternate qubits of a four-qubit Heisenberg XX chain in a magnetic field. 2005 , 71, | 58 |
| 1507 | Optically induced spin-to-charge transduction in donor-spin readout. 2005 , 72, | 13 |
| 1506 | Structural and chemical trends in doped silicon nanocrystals: First-principles calculations. 2005, 71, | 60 |
| 1505 | Spin relaxation and decoherence of two-level systems. 2005 , 72, | 14 |
| 1504 | Radio-frequency operation of a double-island single-electron transistor. 2005 , 97, 034501 | 6 |

| 1503 | Quantum trajectories for the realistic measurement of a solid-state charge qubit. 2005 , 71, | 21 |
|------|--|-----|
| 1502 | Exchange gate in solid-state spin-quantum computation: The applicability of the Heisenberg model. 2005 , 71, | 52 |
| 1501 | Double occupancy errors in quantum computing operations: Corrections to adiabaticity. 2005 , 71, | 10 |
| 1500 | Spin manipulation of free two-dimensional electrons in Si/SiGe quantum wells. 2005 , 94, 126802 | 81 |
| 1499 | Microscopic quantum dynamics study on the noise threshold of fault-tolerant quantum error correction. 2005 , 72, | 6 |
| 1498 | Polaron effects and electron correlations in two-electron systems: Arbitrary value of electron-phonon interaction. 2005 , 71, | 16 |
| 1497 | Nuclear spin relaxation rate of magnetic impurities in quantum Hall effect systems. 2005 , 72, | 2 |
| 1496 | Coherence time of decoupled nuclear spins in silicon. 2005 , 71, | 127 |
| 1495 | Spin accumulation in degenerate semiconductors near modified Schottky contact with ferromagnets: Spin injection and extraction. 2005 , 72, | 22 |
| 1494 | Electron spin-echo relaxation and envelope modulation of shallow phosphorus donors in silicon. 2005 , 72, | 20 |
| 1493 | Single-wall nanotubes: Atomiclike behavior and microscopic approach. 2005 , 71, | 20 |
| 1492 | Efficiency of the ground-state quantum computer. 2005 , 71, | 3 |
| 1491 | Global control and fast solid-state donor electron spin quantum computing. 2005 , 72, | 67 |
| 1490 | Optically detected measurement of the ground-state population of an ensemble of neutral donors in GaAs. 2005 , 72, | 12 |
| 1489 | Patterning of sub-10-nm Ge islands on Si(100) by directed self-assembly. 2005 , 87, 171902 | 25 |
| 1488 | Effects of inversion asymmetry on electron-nuclear spin coupling in semiconductor heterostructures: possible role of spin-orbit interactions. 2005 , 94, 146601 | 14 |
| 1487 | Modeling, Design, and Optimization of a Solid State Electron Spin Qubit. 2005 , 65, 1285-1304 | 6 |
| 1486 | Fault-tolerant quantum computation via exchange interactions. 2005 , 94, 040507 | 27 |

| 1485 | Laser-controlled local magnetic field with semiconductor quantum rings. 2005 , 72, | 51 |
|------|--|----|
| 1484 | Light-induced Knight shifts in GaAsAlxGa1⊠As quantum wells. 2005 , 71, | 6 |
| 1483 | Electrical readout of a spin qubit without double occupancy. 2005, 71, | 20 |
| 1482 | Nonperturbative bounds on electron spin coherence times induced by hyperfine interactions. 2005 , 71, | 21 |
| 1481 | Simulation of Heisenberg XY interactions and realization of a perfect state transfer in spin chains using liquid nuclear magnetic resonance. 2005 , 72, | 78 |
| 1480 | Indirect coupling between spins in semiconductor quantum dots. 2005 , 71, | 12 |
| 1479 | Thermal entanglement properties of small spin clusters. 2005 , 72, | 46 |
| 1478 | Quantum imaging and selection rules in triangular quantum corrals. 2005, 71, | 9 |
| 1477 | Quantum-dot cluster-state computing with encoded qubits. 2005 , 72, | 49 |
| 1476 | Optimal two-qubit quantum circuits using exchange interactions. 2005 , 72, | 26 |
| 1475 | Anderson model with spin-flip-associated tunneling. 2005 , 72, | 6 |
| 1474 | Electronic structure of a many-electron spherical quantum dot with an impurity. 2005 , 72, | 14 |
| 1473 | Simulation of Si:P spin-based quantum computer architecture. 2005 , 72, | 9 |
| 1472 | Quantum computing with spin qubits interacting through delocalized excitons: Overcoming hole mixing. 2005 , 72, | 22 |
| 1471 | Energetic suppression of decoherence in exchange-only quantum computation. 2005, 72, | 20 |
| 1470 | Deterministic quantum logic with photons via optically induced photonic band gaps. 2005, 71, | 65 |
| 1469 | Reversible fault-tolerant logic. | 9 |
| 1468 | Entanglement assisted metrology. 2005 , 94, 020502 | 61 |

| 1467 | Nanofabrication aspects of silicon-based spin quantum gates. 2005 , 4, 113-115 | 5 |
|------|---|-----|
| 1466 | Quantum computation with diatomic bits in optical lattices. 2005 , 72, | 33 |
| 1465 | Fault-tolerant quantum dynamical decoupling. 2005 , 95, 180501 | 353 |
| 1464 | Gate control of dynamic nuclear polarization in GaAs quantum wells. 2005 , 94, 097601 | 22 |
| 1463 | Relaxation of a nuclear spin placed on a biased nanomechanical oscillator. 2005 , 4, 96-99 | |
| 1462 | Measuring errors in single-qubit rotations by pulsed electron paramagnetic resonance. 2005 , 71, | 39 |
| 1461 | Theory of dynamical control of qubit decay and decoherence. 2005 , 4, 116-123 | 16 |
| 1460 | Theory of the Stark effect for P donors in Si. 2005 , 94, 186403 | 54 |
| 1459 | Nuclear spin-lattice relaxation in superlattices. 2005 , 4, 83-89 | |
| 1458 | Decoherence of nuclear spin quantum memory in a quantum dot. 2005 , 4, 35-39 | 5 |
| 1457 | Influence of Intrinsic Decoherence on Entanglement in Two-Qubit Quantum Heisenberg XYZ Chain. 2005 , 44, 255-258 | 17 |
| 1456 | ELECTRON SPIN RELAXATION OF A@C60. 2005 , 19, 2910-2914 | |
| 1455 | Electrical addressing of confined quantum systems for quasiclassical computation and finite state logic machines. 2005 , 102, 5653-8 | 38 |
| 1454 | Creation of Multipartite Entanglement and Entanglement Transfer via Heisenberg Interaction. 2005 , 22, 2143-2146 | 18 |
| 1453 | Creating order from random fluctuations in small spin ensembles. 2005 , 307, 408-11 | 24 |
| 1452 | An introduction to quantum information processing: applications and realizations. 2005, 46, 407-436 | 52 |
| 1451 | Basic property of a quantum neural network composed of Kane's qubits. | 1 |
| | Controlled shallow single-ion implantation in silicon using an active substrate for sub-20-keV ions. | |

| 1449 | High-Purity, Isotopically Enriched Bulk Silicon. 2005 , 152, G448 | 33 |
|------------------------------|--|---------------------------|
| 1448 | Geometrical effects on the optical properties of quantum dots doped with a single magnetic atom. 2005 , 95, 047403 | 82 |
| 1447 | Theory of spin splitting in Ga1⊠AlxAs parabolic quantum wells controlled by an electric field. 2005 , 72, | 15 |
| 1446 | Resonant spikes of the nuclear spin qubits relaxation rate in quantum-Hall systems with magnetic impurities. 2005 , 4, 52-56 | |
| 1445 | Charge qubits in semiconductor quantum computer architecture: Tunnel coupling and decoherence. 2005 , 71, | 44 |
| 1444 | Fluctuators and qubits: coherent quantum oscillations. 2005 , 17, L385-L391 | 2 |
| 1443 | Quantum computing on long-lived donor states of Li in Si. 2005 , 72, | 28 |
| 1442 | Holonomic quantum computation in decoherence-free subspaces. 2005 , 95, 130501 | 95 |
| 1441 | Theoretical study of phosphorous Edoped silicon for quantum computing. 2005, 71, | 31 |
| | | |
| 1440 | Scanning probe microscopy for silicon device fabrication. 2005 , 31, 505-515 | 42 |
| 1440 1439 | Scanning probe microscopy for silicon device fabrication. 2005 , 31, 505-515 Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005 , 4, 100-105 | 2 |
| 1439 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas | |
| 1439 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005 , 4, 100-105 | 2 |
| 1439 1438 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005 , 4, 100-105 Molecular Information Technology. 2005 , 30, 33-69 | 2 41 |
| 1439 1438 1437 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005, 4, 100-105 Molecular Information Technology. 2005, 30, 33-69 Dynamics and phonon-induced decoherence of Andreev level qubit. 2005, 71, | 2 41 41 |
| 1439 1438 1437 1436 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005, 4, 100-105 Molecular Information Technology. 2005, 30, 33-69 Dynamics and phonon-induced decoherence of Andreev level qubit. 2005, 71, Entanglement observables and witnesses for interacting quantum spin systems. 2005, 72, Charge decoherence in laterally coupled quantum dots due to electron-phonon interactions. 2005, | 2 41 41 63 |
| 1439 1438 1437 1436 | Magnetoresistively detected electron spin resonance in low-density two-dimensional electron gas in GaAs-AlGaAs single quantum wells. 2005, 4, 100-105 Molecular Information Technology. 2005, 30, 33-69 Dynamics and phonon-induced decoherence of Andreev level qubit. 2005, 71, Entanglement observables and witnesses for interacting quantum spin systems. 2005, 72, Charge decoherence in laterally coupled quantum dots due to electron-phonon interactions. 2005, 72, | 2 41 41 63 77 |

| 1431 | Spin characterization and control over the regime of radiation-induced zero-resistance states. 2005 , 4, 27-34 | 14 |
|------|---|-----|
| 1430 | Implementing a high-efficiency quantum-controlled phase gate between long-distance atoms. 2005 , 22, 1547 | 5 |
| 1429 | Intervalley interactions in Si quantum dots. 2005 , 98, 033709 | 14 |
| 1428 | Study of temperature dependence of electron-phonon relaxation and dephasing in semiconductor double-dot nanostructures. 2005 , 4, 65-70 | 9 |
| 1427 | Effect of electron-nuclear spin interactions for electron-spin qubits localized in InGaAs self-assembled quantum dots. 2005 , 97, 043706 | 22 |
| 1426 | Optical Bistability, Optical Computing, Spintronics and Quantum Computing. 2005 , 645-673 | |
| 1425 | Efficient single photon detection by quantum dot resonant tunneling diodes. 2005 , 94, 067401 | 114 |
| 1424 | Spin transport in disordered two-dimensional hopping systems with Rashba spin-orbit interaction. 2005 , 71, | 3 |
| 1423 | Control of vertically coupled InGaAs/GaAs quantum dots with electric fields. 2005, 94, 157401 | 127 |
| 1422 | Thermal entanglement of spins in an inhomogeneous magnetic field. 2005 , 71, | 112 |
| 1421 | Generation of single color centers by focused nitrogen implantation. 2005 , 87, 261909 | 178 |
| 1420 | Coherence stabilization of a two-qubit gate by ac fields. 2005 , 95, 140502 | 34 |
| 1419 | Decoherence of localized spins interacting via RKKY interaction. 2005 , 72, | 23 |
| 1418 | Spin-orbit coupling in a quantum dot at high magnetic field. 2005 , 72, | 17 |
| 1417 | Single-spin detection by qubit SWAP to a molecular nanomagnet. 2005 , 69, 699-705 | 4 |
| 1416 | Control and detection of singlet-triplet mixing in a random nuclear field. 2005 , 309, 1346-50 | 460 |
| 1415 | Donor electron wave functions for phosphorus in silicon: Beyond effective-mass theory. 2005 , 72, | 63 |
| 1414 | Pseudo-spin quantum computation in semiconductor nanostructures. 2005 , 7, 177-177 | 2 |

| 1413 | Semiconductor Few-Electron Quantum Dots as Spin Qubits. 2005 , 25-95 | 17 |
|------------------------------|---|-----|
| 1412 | Single-exciton spectroscopy of semimagnetic quantum dots. 2006 , 73, | 82 |
| 1411 | Coherence of spin qubits in silicon. 2006 , 18, S783-S794 | 97 |
| 1410 | Electrical activation and electron spin coherence of ultralow dose antimony implants in silicon. 2006 , 88, 112101 | 64 |
| 1409 | Implementation of quantum gate operations in molecules with weak laser fields. 2006, 124, 114110 | 20 |
| 1408 | Charge-density excitations in a quasi-one-dimensional electron gas with spin-orbit interactions: Zero magnetic field. 2006 , 73, | 7 |
| 1407 | Hybrid quantum repeater based on dispersive CQED interactions between matter qubits and bright coherent light. 2006 , 8, 184-184 | 125 |
| 1406 | Enhancement-mode metal-oxide-semiconductor single-electron transistor on pure silicon. 2006 , 89, 073106 | 8 |
| 1405 | Structural studies of phosphorus induced dimers on Si(001). 2006 , 73, | 9 |
| | | |
| 1404 | . 2006, | |
| 1404 | . 2006, A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. | |
| 1403 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside | |
| 1403 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. | 12 |
| 1403 1402 1401 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. Decoherence of Dynamically Manipulated Qubits. 2006, Knight shift detection using gate-induced decoupling of the hyperfine interaction in quantum Hall | 12 |
| 1403 1402 1401 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. Decoherence of Dynamically Manipulated Qubits. 2006, Knight shift detection using gate-induced decoupling of the hyperfine interaction in quantum Hall edge channels. 2006, 89, 062108 | 12 |
| 1403 1402 1401 1400 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. Decoherence of Dynamically Manipulated Qubits. 2006, Knight shift detection using gate-induced decoupling of the hyperfine interaction in quantum Hall edge channels. 2006, 89, 062108 Entanglement and Correlation in Kondo Impurity Systems. 2006, Possible one-dimensional structures obtained from transition metal atom doped silicon | |
| 1403 1402 1401 1400 | A Nano-MOS Array: Metallic Carbon Nanostructure Connected with Nanoscale SiO2Islands inside Insulated Alumina Nanochannels on Silicon Substrate. Decoherence of Dynamically Manipulated Qubits. 2006, Knight shift detection using gate-induced decoupling of the hyperfine interaction in quantum Hall edge channels. 2006, 89, 062108 Entanglement and Correlation in Kondo Impurity Systems. 2006, Possible one-dimensional structures obtained from transition metal atom doped silicon nanoclusters. 2006, 79, 709-716 Threshold error penalty for fault-tolerant quantum computation with nearest neighbor | 3 |

| 1395 Cross-talk compensation of hyperfine control in donor-qubit architectures. 2006 , 17, 4572-80 | 9 |
|--|-----|
| 1394 Quantum Computing for Computer Architects. 2006 , 1, 1-154 | 8 |
| 1393 En Route to Solid State Spin Quantum Computing. 2006 , 87-113 | 3 |
| Novel Josephson effect in triplet-superconductor-ferromagnet-triplet-superconductor junctions. 2006 , 96, 047009 | 52 |
| 1391 Quantum speed limit for perfect state transfer in one dimension. 2006 , 74, | 90 |
| Entanglement control in an anisotropic two-qubit Heisenberg XYZ model with external magnetic fields. 2006 , 74, | 99 |
| 1389 Reduced decoherence in large quantum registers. 2006 , 97, 150503 | 53 |
| EVALUATION OF DECOHERENCE FOR QUANTUM COMPUTING ARCHITECTURES: QUBIT SYSTEM SUBJECT TO TIME-DEPENDENT CONTROL. 2006 , 20, 1476-1495 | 7 |
| 1387 Quantum entanglement in the two-impurity Kondo model. 2006 , 73, | 49 |
| 1386 Charge-fluctuation-induced dephasing of exchange-coupled spin qubits. 2006 , 96, 100501 | 142 |
| 1385 Two-spin measurements in exchange interaction quantum computers. 2006 , 73, | 13 |
| $_{13}8_{4}$ Coherent dynamics of coupled electron and nuclear spin qubits in diamond. 2006 , 314, 281-5 | 868 |
| 1383 An All Electrical Spin Detector. 2006 , | |
| 1382 Valley susceptibility of an interacting two-dimensional electron system. 2006 , 97, 186404 | 194 |
| 1381 Quantum-information transport to multiple receivers. 2006 , 73, | 40 |
| 1380 Phosphine dissociation and diffusion on Si(001) observed at the atomic scale. 2006 , 110, 3173-9 | 24 |
| 1379 Pairwise decoherence in coupled spin qubit networks. 2006 , 97, 207206 | 86 |
| 1378 Optical detection and ionization of donors in specific electronic and nuclear spin States. 2006 , 97, 227401 | 57 |

| 1377 | Entanglement of two impurities through electron scattering. 2006 , 96, 230501 | 51 |
|------|---|-----|
| 1376 | Quantum Computing. 2006 , 253-286 | 1 |
| 1375 | Processing quantum information in diamond. 2006 , 18, S807-S824 | 323 |
| 1374 | Semiconductors: Nanostructures and applications in spintronics and quantum computation. 2006, | 1 |
| 1373 | Indirect exchange coupling between two nuclei of magnetic impurities in 2DES: Strong scattering limit. 2006 , 75, 321-327 | |
| 1372 | An All Electrical Spin Detector. | |
| 1371 | Scheduling physical operations in a quantum information processor. 2006 , 6244, 210 | 18 |
| 1370 | Electrically detected magnetic resonance in ion-implanted Si:P nanostructures. 2006, 89, 182115 | 73 |
| 1369 | Polarization of electron spin in two barrier system based on semimagnetic semiconductors. 2006 , 3, 1091-109 | 94 |
| 1368 | Magnetically driven coupling of electronic states in quantum dot molecules. 2006 , 3, 3656-3659 | 1 |
| 1367 | Estimation of dynamic nuclear polarization in quantum-Hall devices using tilted magnetic fields. 2006 , 3, 4384-4387 | |
| 1366 | Local detection of Knight shift around quantum-Hall edge channels using resistively-detected NMR. 2006 , 3, 4368-4371 | |
| 1365 | Improving the purity of one- and two-qubit gates. 2006 , 54, 804-819 | 6 |
| 1364 | Isotopically engineered semiconductors: from the bulk to nanostructures. 2006 , 203, 3550-3558 | 18 |
| 1363 | Spin transport through a ZnSe-based diluted magnetic semiconductor resonant tunneling structure in the presence of electric and magnetic fields. 2006 , 243, 1956-1962 | 9 |
| 1362 | Control of single spins in individual magnetic quantum dots. 2006 , 243, 3709-3718 | 4 |
| 1361 | Electron spin and nuclear spin manipulation in semiconductor nanosystems. 2006, 243, 3764-3772 | |
| 1360 | Electrical detection of coherent 31P spin quantum states. 2006 , 2, 835-838 | 126 |

(2006-2006)

| 1359 | Atom-by-atom substitution of Mn in GaAs and visualization of their hole-mediated interactions. Nature, 2006, 442, 436-9 50.4 | 240 |
|------|---|-----|
| 1358 | Anisotropic indirect nuclear spinBpin coupling in InP: 31P CP NMR study under slow MAS condition. 2006 , 419, 28-32 | 4 |
| 1357 | Ordered inclusion of endohedral fullerenes N@C60 and P@C60 in a crystalline matrix. 2006 , 424, 327-332 | 32 |
| 1356 | Spin-polarized edge states of quantum Hall systems on silicon basis. 2006 , 83, 1753-1756 | 2 |
| 1355 | Strategies for integration of donor electron spin qubits in silicon. 2006 , 83, 1814-1817 | 9 |
| 1354 | Pulsed EPR study of spin coherence time of P donors in isotopically controlled Si. 2006 , 376-377, 28-31 | 2 |
| 1353 | Limitations to quantitative analysis of ultra-thin SiGe quantum wells with low energy RBS. 2006 , 249, 466-469 | |
| 1352 | P2 dimer implantation in silicon: A molecular dynamics study. 2006 , 251, 395-401 | 7 |
| 1351 | Single-electron transistor in strained Si/SiGe heterostructures. 2006 , 34, 456-459 | 6 |
| 1350 | Effects of Rashba spinØrbit interaction on spin-dependent resonant tunneling in ZnSe/Zn1¼MnxSe multilayer heterostructures. 2006 , 35, 103-109 | 10 |
| 1349 | Electron spin coherence in Si. 2006 , 35, 257-263 | 21 |
| 1348 | Optical properties of individual manganese-doped quantum dots. 2006 , 35, 300-308 | 1 |
| 1347 | Entanglement of a degenerate system in adiabatic process. 2006 , 353, 295-299 | 2 |
| 1346 | Scheme for generating maximally entangled atomic states in a spinor BoseEinstein condensate. 2006 , 354, 151-155 | 2 |
| 1345 | Statistical properties of the truncated state with random coefficients. 2006 , 356, 104-109 | 2 |
| 1344 | Coupling bosonic modes with a qubit: entanglement dynamics at zero and finite temperatures. 2006 , 360, 49-56 | 10 |
| 1343 | Fundamentals and applications of isotope effect in solids. 2006 , 51, 287-426 | 25 |
| 1342 | Two-dimensional optical mask design and atom lithography. 2006 , 37, 57-63 | 5 |

| 1341 | Investigation of the spin properties of electrons in zero-dimensional SiGe structures by electron paramagnetic resonance. 2006 , 126, 172-175 | 8 |
|------|--|----|
| 1340 | Quantum effects in ion implanted devices. 2006 , 249, 221-225 | 6 |
| 1339 | Entanglement in a spin-one spin chain. 2006 , 138, 17-21 | 13 |
| 1338 | Spintronic devices as quantum networks. 2006 , 16, 1444-1450 | 1 |
| 1337 | High-dielectric-constant medium used to increase qubit spacing. 2006 , 35, 277-284 | |
| 1336 | Phonon-induced decoherence and dissipation in donor-based charge qubits. 2006 , 53, 91-98 | 18 |
| 1335 | Individual charge traps in silicon nanowires. 2006 , 54, 299-307 | 54 |
| 1334 | Thermal entanglement in a two-spin-qutrit system under a nonuniform external magnetic field. 2006 , 37, 123-127 | 23 |
| 1333 | Concept of deterministic single ion doping with sub-nm spatial resolution. 2006 , 83, 321-327 | 53 |
| 1332 | Phosphorus and hydrogen atoms on the (0 0 1) surface of silicon: A comparative scanning tunnelling microscopy study of surface species with a single dangling bond. 2006 , 600, 318-324 | 19 |
| 1331 | Single electron transistor fabricated with SOI wafer. 2006 , 26, 889-892 | 2 |
| 1330 | A model for semiconductor quantum dot molecule based on the current spin density functional theory. 2006 , 175, 575-582 | 6 |
| 1329 | Orbital quantum bit in Si quantum dots. 2006 , | |
| 1328 | Time dependent quantum simulations of two-qubit gates based on donor states in silicon. 2006 , 18, S767-S77 | 65 |
| 1327 | Spin-polarized hole transport through a diluted magnetic semiconductor heterostructure with magnetic-field modulations. 2006 , 73, 786-792 | 9 |
| 1326 | Numerical simulation of a controlledflontrolled-not (CCN) quantum gate in a chain of three interacting nuclear spins system. 2006 , 39, 3897-3904 | 10 |
| 1325 | Stability of Decoherence-Free Subspaces under Stochastic Phase Fluctuations. 2006 , 46, 447-452 | |
| 1324 | Precision characterization of two-qubit Hamiltonians via entanglement mapping. 2006 , 39, 14649-14658 | 15 |

(2006-2006)

| 1323 | Liquid Nuclear Magnetic Resonance Implementation of Quantum Computation in Subspace. 2006 , 23, 1996-1999 | 6 |
|------|---|----|
| 1322 | Information, computing technology, and quantum computing. 2006 , 18, S703-S719 | 6 |
| 1321 | Group IV solid state proposals for quantum computation. 2006 , 18, S745-S766 | 13 |
| 1320 | Implementation of a three-qubit refined Deutschllozsa algorithm using SFG quantum logic gates. 2006 , 18, S795-S805 | 1 |
| 1319 | Micromachined piezoresistive proximal probe with integrated bimorph actuator for aligned single ion implantation. 2006 , 24, 3148 | 7 |
| 1318 | IMPLEMENTATION OF QUANTUM LOGIC OPERATIONS AND CREATION OF ENTANGLEMENT BETWEEN TWO NUCLEAR SPIN QUBITS WITH CONSTANT INTERACTION. 2006 , 04, 975-1001 | |
| 1317 | Architectural implications of quantum computing technologies. 2006 , 2, 31-63 | 58 |
| 1316 | Spin-Dependent Transport and Densities of States in Non-collinear Magnetic Barriers. 2006 , 46, 938-944 | |
| 1315 | Quantum control of two interacting electrons in a coupled quantum dot. 2006 , 15, 2130-2141 | 4 |
| 1314 | Spin Relaxation in SiGe Islands. 2006 , 958, 1 | |
| 1313 | Time optimal control of spin systems with unequal coupling. 2006, | |
| 1312 | Control of nuclear spin in InGaAs quantum dots. 2006 , | |
| 1311 | Determination of the Surface Segregation Ratio of P in Si. 2006 , | |
| 1310 | Creation of entanglement in a scalable spin quantum computer with long-range dipole-dipole interaction between qubits. 2006 , 73, | 4 |
| 1309 | All-electrical control of single ion spins in a semiconductor. 2006 , 97, 106803 | 38 |
| 1308 | Giant anisotropy of Zeeman splitting of quantum confined acceptors in Si/Ge. 2006, 96, 086403 | 17 |
| 1307 | Phosphorus donors in highly strained silicon. 2006 , 97, 166402 | 31 |
| 1306 | Spin-orbit effects on the Larmor dispersion relation in GaAs quantum wells. 2006 , 73, | 6 |

| 1305 | Stark tuning of donor electron spins in silicon. 2006 , 97, 176404 | 63 |
|------|---|----|
| 1304 | Signatures of quantum behavior in single-qubit weak measurements. 2006 , 96, 200404 | 57 |
| 1303 | Electric-field-dependent spectroscopy of charge motion using a single-electron transistor. 2006 , 88, 213118 | 13 |
| 1302 | Time evolution of a single spin inhomogeneously coupled to an interacting spin environment. 2006 , 124, 144513 | 14 |
| 1301 | Magnetic-field-assisted manipulation and entanglement of Si spin qubits. 2006, 74, | 7 |
| 1300 | Effect of the triplet state on the random telegraph signal in Si n-MOSFETs. 2006, 74, | 18 |
| 1299 | Qubit Transport and Fault-tolerant Architectures in Silicon. 2006, | |
| 1298 | Magnetic-field dependence of valley splitting in Si quantum wells grown on tilted SiGe substrates. 2006 , 74, | 10 |
| 1297 | Quantum pattern retrieval by qubit networks with Hebb interactions. 2006 , 97, 130503 | 4 |
| 1296 | Gate-controlled nuclear magnetic resonance in an AlGaAs©aAs quantum Hall device. 2006, 89, 202111 | 1 |
| 1295 | Magnetoplasmon excitations in quasi-two-dimensional Rashba spintronic systems: Oscillations, resonances, and energy gaps. 2006 , 74, | 18 |
| 1294 | Intervalley gap anomaly of two-dimensional electrons in silicon. 2006 , 96, 076805 | 21 |
| 1293 | Quantum dots and etch-induced depletion of a silicon two-dimensional electron gas. 2006 , 99, 023509 | 12 |
| 1292 | Single spin measurement using cellular automata techniques. 2006 , 97, 100501 | 26 |
| 1291 | Magnetic field dependence of valley splitting in realistic SiBiGe quantum wells. 2006 , 89, 202106 | 65 |
| 1290 | Magnetic susceptibility of exchange-disordered antiferromagnetic finite chains. 2006, 73, | 3 |
| 1289 | Computation of the Stark effect in P impurity states in silicon. 2006 , 74, | 33 |
| 1288 | Electronic control and readout of qubits based on single impurity states in semiconductors. 2006 , 89, 153127 | 3 |

| 1287 | Aharonov-Bohm phase operations on a double-barrier nanoring charge qubit. 2006, 74, | 3 |
|------|---|-----|
| 1286 | Electric-field driven donor-based charge qubits in semiconductors. 2006 , 73, | 33 |
| 1285 | Ion implanted Si:P double dot with gate tunable interdot coupling. 2006 , 100, 106104 | 16 |
| 1284 | Quantum Neural Network Composed of Kane's Qubits. 2006 , 45, 8030-8034 | 5 |
| 1283 | Electric-field-induced charge noise in doped silicon: Ionization of phosphorus donors. 2006 , 88, 162117 | 1 |
| 1282 | Spin-polarized transport in a lateral two-dimensional diluted magnetic semiconductor electron gas. 2006 , 88, 082107 | 5 |
| 1281 | Lateral quantum dots in SiBiGe realized by a Schottky split-gate technique. 2006 , 88, 162112 | 29 |
| 1280 | Quantum logic processor: Implementation with electronic Mach-Zehnder interferometer. 2006 , 88, 213113 | 7 |
| 1279 | Scheme for direct measurement of a general two-qubit Hamiltonian. 2006 , 73, | 30 |
| 1278 | Quantum theory for electron spin decoherence induced by nuclear spin dynamics in semiconductor quantum computer architectures: Spectral diffusion of localized electron spins in the nuclear solid-state environment. 2006 , 74, | 182 |
| 1277 | Numerical method for determination of the NMR frequency of the single-qubit operation in a silicon-based solid-state quantum computer. 2006 , 74, | 9 |
| 1276 | Integer spin Hall effect in ballistic quantum wires. 2006 , 73, | 22 |
| 1275 | Two-dimensional architectures for donor-based quantum computing. 2006 , 74, | 177 |
| 1274 | Modelling nanoelectronic quantum control of donor qubits in silicon. 2006, | |
| 1273 | Controlled single electron transfer between Si:P dots. 2006 , 88, 192101 | 24 |
| 1272 | Quantum control of donor electrons at the Si-SiO2 interface. 2006 , 96, 096802 | 71 |
| 1271 | Laser-cooled atoms as a focused ion-beam source. 2006 , 74, | 37 |
| 1270 | Decoherence in large NMR quantum registers. 2006 , 74, | 29 |

| 1269 | Model for an irreversible bias current in the superconducting qubit measurement process. 2006 , 74, | 2 |
|------|---|-----|
| 1268 | Spin-based quantum computing using electrons on liquid helium. 2006 , 74, | 64 |
| 1267 | Local operations in qubit arrays via global periodic manipulation. 2006 , 74, | 10 |
| 1266 | Influence of qubit displacements on quantum logic operations in a silicon-based quantum computer with constant interaction. 2006 , 74, | 1 |
| 1265 | Decoherence effects on the quantum spin channels. 2006 , 74, | 56 |
| 1264 | Spin decoherence from Hamiltonian dynamics in quantum dots. 2006 , 74, | 15 |
| 1263 | Optical pump-probe measurements of local nuclear spin coherence in semiconductor quantum wells. 2006 , 96, 067602 | 42 |
| 1262 | Switching characteristics of coupled quantum wires with tunable coupling strength. 2006 , 89, 013118 | 18 |
| 1261 | Measurement of the charge transfer efficiency of electrons clocked on superfluid helium. 2006 , 88, 254105 | 4 |
| 1260 | Processor core model for quantum computing. 2006 , 96, 220501 | 28 |
| 1259 | All-optical measurement-based quantum-information processing in quantum dots. 2006 , 97, 250504 | 19 |
| 1258 | Rapid state reduction of quantum systems using feedback control. 2006 , 96, 010504 | 61 |
| 1257 | Transport spectroscopy of a single dopant in a gated silicon nanowire. 2006 , 97, 206805 | 198 |
| 1256 | Millisecond spin-flip times of donor-bound electrons in GaAs. 2006 , 74, | 22 |
| 1255 | Loss of quantum coherence due to nonstationary glass fluctuations. 2006 , 73, | 8 |
| 1254 | Impurities, quantum interference, and quantum phase transitions in s-wave superconductors. 2006 , 73, | 28 |
| 1253 | Potential errors in a scheme of universal quantum gates in Kanell model. 2006 , 73, | |
| 1252 | Theory of the microwave spectroscopy of a phosphorus-donor charge qubit in silicon: Coherent control in the Si:P quantum-computer architecture. 2006 , 74, | 12 |

(2006-2006)

| 1251 | Effects of electron-electron interaction and electron spin correlations on the exchange coupling in mesoscopic rings. 2006 , 73, | 5 |
|------|---|----|
| 1250 | Fabrication of single atom nanoscale devices by ion implantation. 2006, | |
| 1249 | Fault-tolerant Landau-Zener quantum gates. 2006 , 73, | 19 |
| 1248 | Exchange coupling in semiconductor nanostructures: Validity and limitations of the Heitler-London approach. 2006 , 74, | 12 |
| 1247 | Molecular orbital calculations of two-electron states for P-donor solid-state spin qubits. 2006, 73, | 14 |
| 1246 | Spin conversion rates due to dipolar interactions in monoisotopic quantum dots at vanishing spin-orbit coupling. 2006 , 73, | |
| 1245 | Light-induced hyperfine Ga69 shifts in semi-insulating GaAs observed by optically polarized NMR. 2006 , 74, | 23 |
| 1244 | Spin-bus concept of spin quantum computing. 2006 , 73, | 44 |
| 1243 | Electrical detection of spin excitations. 2006 , 73, | 8 |
| 1242 | Rabi oscillations in the four-level double-dot structure under the influence of the resonant pulse. 2006 , 73, | 36 |
| 1241 | Impurity conduction in phosphorus-doped buried-channel silicon-on-insulator field-effect transistors at temperatures between 10 and 295K. 2006 , 74, | 13 |
| 1240 | A double gate metal-oxide-semiconductor structure for modulation of the hyperfine interaction in phosphorous-doped Si device. 2006 , 100, 126106 | 2 |
| 1239 | Thermal entanglement of spins in mean-field clusters. 2006 , 73, | 12 |
| 1238 | Entanglement of a two-qubit system with anisotropic couplings in nonuniform magnetic fields. 2006 , 39, 10523-10535 | 19 |
| 1237 | Nanometre-scale nuclear-spin device for quantum information processing. 2006 , 18, S885-S900 | 21 |
| 1236 | Quantum computation and quantum information[View all notes. 2006, 21, 1-59 | 12 |
| 1235 | Single-dopant spectroscopy and sub-threshold channels at the corners of triple-gate FinFETs. 2006, | 4 |
| 1234 | Development of a single ion detection system for the implantation of donors with nanoscale precision. 2006 , | |

| 1233 | The efficiencies of generating cluster states with weak nonlinearities. 2007 , 9, 193-193 | 67 |
|------|--|----|
| 1232 | EFFECT OF MAGNETIC FIELDS ON BINDING ENERGY OF IMPURITY STATES IN A SEMIMAGNETIC PARABOLIC QUANTUM DOT. 2007 , 21, 3035-3044 | 2 |
| 1231 | Electron dynamics in quantum gate operation. 2007 , 19, 282201 | 6 |
| 1230 | QUANTUM COMPUTATION IN SILICON IDEVICE MODELING, TRANSPORT AND FAULT-TOLERANCE. 2007 , 22, 4999-5009 | |
| 1229 | Quantum bit controller and observer circuits in SOS-CMOS technology for gigahertz low-temperature operation. 2007 , | 6 |
| 1228 | MODELING AND IMPLEMENTATION OF SPIN-BASED QUANTUM COMPUTATION. 2007 , 17, 599-605 | |
| 1227 | Cavity ring-down spectroscopy of jet-cooled silane isotopologues in the Si-H stretch overtone region. 2007 , 127, 244301 | 3 |
| 1226 | Activation mechanisms in sodium-doped silicon MOSFETs. 2007 , 19, 226216 | 5 |
| 1225 | Tailoring quantum architectures to implementation style. 2007 , 35, 198-209 | 2 |
| 1224 | Tailoring quantum architectures to implementation style. 2007, | 8 |
| 1223 | P-wave-enhanced spin field effect transistor and recent patents. 2007 , 1, 169-75 | |
| 1222 | Using split-gate structures to explore the implementation of a coupled-electron-waveguide qubit scheme. 2007 , 19, 276205 | 9 |
| 1221 | Thermal entanglement of a three-qubit system in inhomogeneous magnetic fields. 2007, 40, 7283-7296 | 7 |
| 1220 | Understanding entangled spins in QED. 2007 , 40, 11617-11625 | 1 |
| 1219 | Exact diagonalization for spin-1/2 chains and the first order quantum phase transitions of the XXX chain in a uniform transverse field. 2007 , 19, 386208 | 1 |
| 1218 | Spin separation in a T ballistic nanojunction due to lateral-confinement-induced spinBrbit coupling. 2007 , 19, 395018 | 4 |
| 1217 | Effects of Inhomogeneous Spin Coupling and Anisotropy on Thermal Entanglement. 2007 , 24, 1448-1451 | 1 |
| 1216 | Optimal control of quantum gates and suppression of decoherence in a system of interacting two-level particles. 2007 , 40, S103-S125 | 84 |

(2007-2007)

| 1215 | Quantum logic gates with a two-level trapped ion in a high-finesse cavity beyond the Lamb D icke limit. 2007 , 40, 507-516 | 8 |
|------|---|----|
| 1214 | Determination of the surface segregation ratio of P in Si(1 0 0) during solid-source molecular beam epitaxial growth. 2007 , 22, S80-S83 | 7 |
| 1213 | Suppression of spin-splitting in Al0.33Ga0.67As/AlyGa1JAs heterostructures withyvarying from 0.10 to 0.15. 2007 , 22, 722-727 | 1 |
| 1212 | Resonant scattering can enhance the degree of entanglement. 2007 , 40, 297-308 | 37 |
| 1211 | Quantum Cryptography in Spin Networks. 2007 , 24, 3051-3054 | 2 |
| 1210 | Phase-dependent characteristics of a superconducting junction by using the Schr¶dinger wave function. 2007 , 76, 634-640 | 5 |
| 1209 | External field control of donor electron exchange at the SiBiO2 interface. 2007, 75, | 39 |
| 1208 | Decoherence in large quantum registers under variable interaction with the environment. 2007, 75, | 51 |
| 1207 | Effects of optical absorption on Ga71 optically polarized NMR in semi-insulating GaAs: Measurements and simulations. 2007 , 75, | 21 |
| 1206 | Quantum description of nuclear spin cooling in a quantum dot. 2007 , 75, | 49 |
| 1205 | Effective quantum dynamics of interacting systems with inhomogeneous coupling. 2007, 75, | 18 |
| 1204 | Optical transitions between valley split subbands in biased Si quantum wells. 2007 , 75, | 11 |
| 1203 | Protocols for optimal readout of qubits using a continuous quantum nondemolition measurement. 2007 , 76, | 85 |
| 1202 | Spin-dependent scattering off neutral antimony donors in Si28 field-effect transistors. 2007 , 91, 242106 | 34 |
| 1201 | Weak nonlinearities and cluster states. 2007 , 75, | 37 |
| 1200 | Pulse-induced acoustoelectric vibrations in surface-gated GaAs-based quantum devices. 2007, 75, | 5 |
| 1199 | Detection of field-induced single-acceptor ionization in Si by single-hole-tunneling transistor. 2007 , 91, 042103 | 9 |
| 1198 | Fidelity of optimally controlled quantum gates with randomly coupled multiparticle environments. 2007 , 54, 2339-2349 | 22 |

| 1197 | Electrical coherent control of nuclear spins in a breakdown regime of quantum Hall effect. 2007 , 91, 092120 | 16 |
|------------------------------|--|---------------------|
| 1196 | Dynamic nuclear polarization induced by hot electrons. 2007 , 90, 032102 | 5 |
| 1195 | Ettingshausen effect around a Landau level filling factor nu = 3 studied by dynamic nuclear polarization. 2007 , 99, 146807 | 2 |
| 1194 | Quantum information processing with delocalized qubits under global control. 2007 , 99, 030501 | 23 |
| 1193 | Proposal for electron spin relaxation measurements using double-donor excited states in Si quantum computer architectures. 2007 , 75, | 5 |
| 1192 | Coherent manipulation of electron spins up to ambient temperatures in Cr5+ ($S = 1/2$) doped K3NbO8. 2007 , 99, 137601 | 33 |
| 1191 | Direct observation of the donor nuclear spin in a near-gap bound exciton transition: P31 in highly enriched S28ia). 2007 , 101, 081724 | 32 |
| 1190 | Quantum computation in semiconductor quantum dots of electron-spin asymmetric anisotropic exchange. 2007 , 76, | 10 |
| 1189 | Spin-state mixing in InAs double quantum dots. 2007 , 76, | 57 |
| 1188 | Controlled dynamics of qubits in the presence of decoherence. 2007 , 76, | 14 |
| 1187 | SWAP operation in the two-qubit Heisenberg XXZ model: Effects of anisotropy and magnetic field. | |
| | 2007 , 75, | 12 |
| 1186 | 2007, 75, Universal quantum computing with correlated spin-charge states. 2007, 75, | 13 |
| 1186 1185 | | |
| 1185 | Universal quantum computing with correlated spin-charge states. 2007 , 75, Robust controlled-NOT gate in the presence of large fabrication-induced variations of the | 13 |
| 1185 | Universal quantum computing with correlated spin-charge states. 2007 , 75, Robust controlled-NOT gate in the presence of large fabrication-induced variations of the exchange interaction strength. 2007 , 76, | 13 |
| 1185 1184 | Universal quantum computing with correlated spin-charge states. 2007, 75, Robust controlled-NOT gate in the presence of large fabrication-induced variations of the exchange interaction strength. 2007, 76, Measuring complete quantum states with a single observable. 2007, 76, | 13 22 8 |
| 1185 1184 1183 1182 | Universal quantum computing with correlated spin-charge states. 2007, 75, Robust controlled-NOT gate in the presence of large fabrication-induced variations of the exchange interaction strength. 2007, 76, Measuring complete quantum states with a single observable. 2007, 76, Identification of P dopants at nonequivalent lattice sites of the Si(111)(DII) surface. 2007, 76, Quantum information processing based on P31 nuclear spin qubits in a quasi-one-dimensional Si28 | 13 22 8 18 |

| 1179 | Local unitary quantum cellular automata. 2007 , 76, | 22 |
|------|--|-----|
| 1178 | Reliability of the Heitler-London approach for the exchange coupling between electrons in semiconductor nanostructures. 2007 , 76, | 9 |
| 1177 | Decoherence induced by anisotropic hyperfine interaction in Si spin qubits. 2007 , 76, | 49 |
| 1176 | Quantum state transfer with untunable couplings. 2007 , 75, | 10 |
| 1175 | Single-electron spin decoherence by nuclear spin bath: Linked-cluster expansion approach. 2007 , 75, | 65 |
| 1174 | Single-qubit operations in the double-donor structure driven by optical and voltage pulses. 2007 , 76, | 12 |
| 1173 | Valley splitting in strained silicon quantum wells modeled with 2° miscuts, step disorder, and alloy disorder. 2007 , 90, 092109 | 82 |
| 1172 | Observation of the linear stark effect in a single acceptor in Si. 2007 , 98, 096805 | 43 |
| 1171 | Efficient multiqubit entanglement via a spin bus. 2007 , 98, 230503 | 59 |
| 1170 | Binding energy of a hydrogenic donor impurity in a rectangular parallelepiped-shaped quantum dot: Quantum confinement and Stark effects. 2007 , 101, 093716 | 128 |
| 1169 | Electric-field-driven nuclear spin control using diluted magnetic semiconductors. 2007, 91, 253118 | 7 |
| 1168 | Effect of local strain on single acceptors in Si. 2007 , 76, | 16 |
| 1167 | Drift-compensated data acquisition performed at room temperature with frequency modulation atomic force microscopy. 2007 , 90, 203103 | 86 |
| 1166 | Controlled exchange interaction for quantum logic operations with spin qubits in coupled quantum dots. 2007 , 76, | 12 |
| 1165 | Quantized electron transfer through random multiple tunnel junctions in phosphorus-doped silicon nanowires. 2007 , 76, | 47 |
| 1164 | Nuclear spins as quantum memory in semiconductor nanostructures. 2007 , 76, | 34 |
| 1163 | Decoherence dynamics of two charge qubits in vertically coupled quantum dots. 2007, 76, | 3 |
| 1162 | Quantum Switching Networks with Classical Routing. 2007, | 6 |

| 1161 | Multiplexing single electron transistors for application in scalable solid-state quantum computing. 2007 , 90, 043109 | 6 |
|------|---|----|
| 1160 | Optical pumping and population transfer of nuclear-spin states of caesium atoms in high magnetic fields. 2007 , 16, 998-1007 | 3 |
| 1159 | Entanglement in Anisotropic Heisenberg XYZ Chain with Inhomogeneous Magnetic Field. 2007, 48, 453-456 | 7 |
| 1158 | Focused Ion Beam Fabrication of Individual Carbon Nanotube Devices. 2007 , 1020, 1 | |
| 1157 | Semiconductor Spintronics. 2007 , 1-46 | 20 |
| 1156 | Impurity in Pairwise Entanglement of Heisenberg XX Open Chain. 2007 , 48, 1009-1016 | 2 |
| 1155 | Theory of the Stark Effect on the Donor Levels in 4H Silicon Carbide. 2007, 556-557, 435-438 | 0 |
| 1154 | SPM observation of slow highly charged ion induced nanodots on highly orientated pyrolytic graphite. 2007 , 58, 351-354 | 1 |
| 1153 | A stabilizer code for uncorrelated errors can correct spatially correlated ones. 2007, 40, F457-F463 | 3 |
| 1152 | Algorithm-based analysis of collective decoherence in quantum computation. 2007, 24, 198 | 4 |
| 1151 | Fundamentals of Focused Ion Beam Nanostructural Processing: Below, At, and Above the Surface. 2007 , 32, 424-432 | 79 |
| 1150 | Shortest paths for efficient control of indirectly coupled qubits. 2007, 75, | 54 |
| 1149 | Geodesics for efficient creation and propagation of order along Ising spin chains. 2007, 76, | 23 |
| 1148 | . 2007, | |
| 1147 | Physical Phenomena in Electronic Materials in the Terahertz Region. 2007 , 95, 1641-1645 | 8 |
| 1146 | Effects of anisotropy and external magnetic field on the thermal entanglement in a (1/2,1) mixed-spin Heisenberg model. 2007 , 76, 327-331 | 6 |
| 1145 | Theory of magnetoplasmon excitations in Rashba spintronic quantum wires: Maxons, rotons, and negative-energy dispersion. 2007 , 76, | 16 |
| 1144 | Spectral properties and magneto-optical excitations in semiconductor double rings under Rashba spin-orbit interaction. 2007 , 75, | 19 |

| 1143 | Dangling-bond spin relaxation and magnetic 1flnoise from the amorphous-semiconductor/oxide interface: Theory. 2007 , 76, | 86 |
|------|--|-----|
| 1142 | Quantum communication through spin chain dynamics: an introductory overview. 2007 , 48, 13-30 | 379 |
| 1141 | Will spin-relaxation times in molecular magnets permit quantum information processing?. 2007, 98, 057201 | 601 |
| 1140 | Observing spin polarization of individual magnetic adatoms. 2007 , 99, 067202 | 75 |
| 1139 | Simulation of thermal-field directed self-assembly of epitaxial quantum dots. 2007, 101, 094903 | 3 |
| 1138 | Valley splitting theory of SiGeBiBiGe quantum wells. 2007 , 75, | 111 |
| 1137 | Dephasing of a quantum dot due to the Coulomb interaction with a gate electrode. 2007, 76, | 7 |
| 1136 | Quantitative aspects of entanglement in optically driven quantum dots. 2007 , 75, | 10 |
| 1135 | Flying spin qubits: A method for encoding and transporting qubits within a dimerized Heisenberg spin-12 chain. 2007 , 76, | 19 |
| 1134 | Spin Hall effect and spin filtering in ballistic nanojunctions. 2007 , 19, 395019 | 5 |
| 1133 | Quantum register based on individual electronic and nuclear spin qubits in diamond. 2007, 316, 1312-6 | 890 |
| 1132 | Single-electron quantum dot in SiBiGe with integrated charge sensing. 2007 , 91, 213103 | 65 |
| 1131 | Enhancement of the exchange coupling by the spin-orbit interaction on nanotubes. 2007, 75, | |
| 1130 | Photonic module: An on-demand resource for photonic entanglement. 2007 , 76, | 58 |
| 1129 | Quantum Circuit Design and Analysis for Database Search Applications. 2007, 54, 2552-2563 | 10 |
| 1128 | Non-Markovian reduced dynamics and entanglement evolution of two coupled spins in a quantum spin environment. 2007 , 75, | 82 |
| 1127 | Non-Markovian dynamics of a qubit coupled to an Ising spin bath. 2007 , 76, | 45 |
| 1126 | Robust controlled-NOT gates from almost any interaction. 2007 , 98, 180501 | 41 |

| 1125 | Electrical polarization of nuclear spins in a breakdown regime of quantum Hall effect. 2007, 90, 022102 | 42 |
|------|--|------|
| 1124 | Charge-to-spin conversion of electron entanglement states and spin-interaction-free solid-state quantum computation. 2007 , 76, | 8 |
| 1123 | Charge State Control and Relaxation in an Atomically Doped Silicon Device. 2007, 7, 2000-2003 | 49 |
| 1122 | Quantum transport with spin dephasing: A nonequlibrium Green function approach. 2007, 76, | 27 |
| 1121 | Filtering of spin currents based on a ballistic ring. 2007 , 19, 395020 | 25 |
| 1120 | Adaptive homodyne phase discrimination and qubit measurement. 2007 , 76, | 5 |
| 1119 | Dynamics of two qubits in a spin bath with anisotropic XY coupling. 2007 , 75, | 19 |
| 1118 | Spins in few-electron quantum dots. 2007 , 79, 1217-1265 | 1828 |
| 1117 | Effects of ground-state hyperfine shifts in quantum computing with rare-earth-metal ions in solids. 2007 , 75, | 3 |
| 1116 | Semiconductor Spintronics for Quantum Computation. 2007 , 1-52 | |
| 1115 | Two-qubit gates between noninteracting qubits in endohedral-fullerene-based quantum computation. 2007 , 75, | 34 |
| 1114 | Controllable dynamics of two separate qubits in Bell states. 2007 , 76, | 16 |
| 1113 | Liquid-State Quantum Computing. 2007, | |
| 1112 | Investigation on high mobility nanocrystalline Si with crystalline Si heterostructure. 2007 , 41, 216-226 | 2 |
| 1111 | On the nano-hillock formation induced by slow highly charged ions on insulator surfaces. 2007 , 51, 1398-1404 | 42 |
| 1110 | Ge quantum dot molecules and crystals: Preparation and properties. 2007 , 601, 2787-2791 | 34 |
| 1109 | Influence of arbitrary magnetic field on entanglement in Heisenberg XXZ model. 2007, 275, 268-273 | 3 |
| 1108 | An analytical treatment of excitons in coupled three quantum dots and maximum entangled states generation. 2007 , 380, 191-201 | 1 |

| Magnetoconductivity of Hubbard bands induced in silicon MOSFETs. 2007 , 400, 218-223 | | 2 |
|--|------|-------------------------------|
| 1106 Emission spectra of a superconducting single-Cooper-pair box with binomial states. 2007 , 452, 29-34 | | 3 |
| 1105 Control of impurity over entanglement in Heisenberg chain. 2007 , 39, 150-154 | | 10 |
| Flying spin-qubit gates implemented through Dresselhaus and Rashba spin b rbit couplings. 2007 , 367, 369-372 | | 8 |
| First order quantum phase transitions of the XX spin-1/2 chain in a uniform transverse field. 2007 , 367, 450-453 | | 4 |
| 1102 Realization of atomically controlled dopant devices in silicon. 2007 , 3, 563-7 | | 87 |
| 1101 Spin-controlled LEDs and VCSELs. 2007, 204, 500-507 | | 13 |
| 1100 N@C60 quantum bit engineering. 2007 , 244, 3879-3884 | | 17 |
| 1099 Quantum physics: total surveillance. <i>Nature</i> , 2007 , 446, 275-6 | 50.4 | 1 |
| | | |
| 1098 Theoretical chemistry: the six-bond bound. <i>Nature</i> , 2007 , 446, 276-7 | 50.4 | 52 |
| Technology and metrology of new electronic materials and devices. 2007 , 2, 25-32 | 50.4 | 52 147 |
| | 50.4 | |
| 1097 Technology and metrology of new electronic materials and devices. 2007 , 2, 25-32 | 50.4 | 147 |
| Technology and metrology of new electronic materials and devices. 2007, 2, 25-32 1096 Rare-earth solid-state qubits. 2007, 2, 39-42 A Ge/Si heterostructure nanowire-based double quantum dot with integrated charge sensor. 2007, | 50.4 | 147 157 |
| Technology and metrology of new electronic materials and devices. 2007, 2, 25-32 Rare-earth solid-state qubits. 2007, 2, 39-42 A Ge/Si heterostructure nanowire-based double quantum dot with integrated charge sensor. 2007, 2, 622-5 | 50.4 | 147 157 252 |
| Technology and metrology of new electronic materials and devices. 2007, 2, 25-32 1096 Rare-earth solid-state qubits. 2007, 2, 39-42 A Ge/Si heterostructure nanowire-based double quantum dot with integrated charge sensor. 2007, 2, 622-5 Quantum devices: Nanowires charge towards integration. 2007, 2, 595-6 | | 147 157 252 2 |
| Technology and metrology of new electronic materials and devices. 2007, 2, 25-32 1096 Rare-earth solid-state qubits. 2007, 2, 39-42 1095 A Ge/Si heterostructure nanowire-based double quantum dot with integrated charge sensor. 2007, 2, 622-5 1094 Quantum devices: Nanowires charge towards integration. 2007, 2, 595-6 1093 Controllable valley splitting in silicon quantum devices. 2007, 3, 41-45 Controlled exchange interaction between pairs of neutral atoms in an optical lattice. <i>Nature</i> , 2007, | | 147 157 252 2 185 |

| 1089 Perfectly and imperfectly controlled quantum operations on a charge qubit. 2007 , 36, 67-80 | 3 |
|---|------|
| Simulation of NMR spectra of 31P in the spinless 28Si matrix and problems of the design of a solid-state quantum computer. 2007 , 34, 1-6 | |
| 1087 Formation, Dynamics, and Characterization of Nanostructures by Ion Beam Irradiation. 2007 , 32, 1-50 | 65 |
| 1086 Defect-induced magnetism in graphene. 2007 , 75, | 1107 |
| 1085 Spin hall accumulation in ballistic nanojunctions. 2007 , 59, 35-40 | 1 |
| Entanglement in the three-qubit Heisenberg model with next nearest neighbor interaction and a nonuniform magnetic field. 2007 , 41, 571-578 | 8 |
| Effects of phase decoherence on the entanglement of a two-qubit anisotropic Heisenberg XYZ chain with an in-plane magnetic field. 2007 , 44, 151-158 | 13 |
| $_{ m 1082}$ Stability and magnetic properties of Fe encapsulating in silicon nanotubes. 2007 , 18, 235705 | 13 |
| 1081 Single-molecule electron spin resonance. 2007 , 31, 665-676 | 2 |
| 1080 A Nuclear Spin Valve: Towards the Read-out of Single Nuclear Spin Qubits. 2007 , 6, 127-136 | O |
| 1079 Information Free Quantum Bus for Generating Stabiliser States. 2007 , 6, 229-242 | 13 |
| 1078 Nuclear spin manipulation in interfaces of diluted magnetic semiconductors. 2007 , 176, 59-63 | 1 |
| Novel pulsed electron spin resonance system and studies of phosphorus in natural silicon. 2007 , 180, 25-28 | |
| 1076 Thermal Entanglement for Interacting Spin-1/2 Systems and its Quantum Criticality. 2007 , 46, 1360-136 | 9 |
| 1075 Thermal Entanglement of XXZ Heisenberg Chain under Rectangle Magnetic Field. 2007 , 46, 2437-2442 | 7 |
| 1074 Modified Heisenbeg Model and the Structure of Its Energy Spectrum. 2007 , 46, 2967-2975 | |
| 1073 Effect of hydrogenation on P/Si(0 0 1)-(1 🗅). 2007 , 601, 1489-1493 | 3 |
| 1072 Swap action in a solid-state controllable anisotropic Heisenberg model. 2008 , 372, 1119-1122 | 4 |

| 1071 | Non-local dynamics of Bell states in separate cavities. 2008 , 372, 2183-2189 | 1 |
|------|---|----|
| 1070 | Laser-induced operations with charge qubits in a double-well nanostructure. 2008 , 372, 4932-4937 | 4 |
| 1069 | Three oxidation states and atomic-scale pl junctions in manganese perovskite oxide from hydrothermal systems. 2008 , 43, 2131-2137 | 11 |
| 1068 | Impurity band in SnBi4Se7: thermoelectric power and electrical resistivity measurements. 2008 , 92, 565-570 | 5 |
| 1067 | Entanglement in spin-1 Heisenberg XY chain. 2008 , 51, 817-822 | 14 |
| 1066 | Coherent control of bound entangled electrons in a CdMnTe quantum well. 2008 , 5, 2889-2892 | |
| 1065 | Studying compatibilities between quantum cellular automata and Kane's semiconductor based quantum computer. 2008 , 5, 3865-3867 | |
| 1064 | Entanglement in P@C60 encapsulated in a solid state matrix. 2008, 245, 2002-2005 | 6 |
| 1063 | Top-gated few-electron double quantum dot in Si/SiGe. 2008 , 40, 520-523 | 3 |
| 1062 | Spin resonance of 2D electrons in a large-area silicon MOSFET. 2008 , 40, 1659-1661 | 9 |
| 1061 | All-optical control of the exciton g-factor in InAs/GaAs quantum dots. 2008 , 40, 1832-1835 | |
| 1060 | Pressure effects on the spinBrbit interactions in low-dimensional quantum well systems. 2008 , 40, 843-848 | 12 |
| 1059 | Quantum state transfer via a two-qubit Heisenberg XXZ spin model. 2008, 372, 2830-2833 | 4 |
| 1058 | Manipulation of localized charge states in n-MOSFETs with microwave irradiation. 2008 , 372, 3102-3104 | 7 |
| 1057 | Universal quantum logic gates in a scalable Ising spin quantum computer. 2008 , 372, 5270-5273 | 1 |
| 1056 | Hyperfine switching triggered by resonant tunneling for the detection of a single nuclear spin qubit. 2008 , 372, 6690-6693 | 2 |
| 1055 | Towards a holistic CAD platform for nanotechnologies. 2008 , 39, 1032-1040 | 2 |
| 1054 | Thermal entanglement of a two-qutrit Ising system with DzialoshinskiMoriya interaction. 2008 , 281, 5271-5277 | 20 |

Realization of population inversion in a two-level system by damping field. 2008, 40, 1025-1029

| 1052 | Nanometer-scale capacitance spectroscopy of semiconductor donor molecules. 2008 , 403, 3774-3780 | 2 |
|------|---|-----|
| 1051 | The effects of LO phonons on charge qubit. 2008 , 403, 3013-3017 | 6 |
| | Spin filtering through ballistic nanojunctions, the role of geometry and of spin orbit interaction. 2008 , 66, 509-515 | 5 |
| 1049 | Chaotic dynamics of coupled two-level atoms in the optical cavity. 2008, 47, 433-445 | 7 |
| | Creation of entanglement between two electron spins induced by many spin ensemble excitations. 2008 , 48, 293-300 | 6 |
| | Entanglement in the anisotropic Heisenberg XYZ model with different Dzyaloshinskii-Moriya interaction and inhomogeneous magnetic field. 2008 , 50, 207-214 | 38 |
| 1046 | Quantum interfaces using nanoscale surface plasmons. 2008 , 50, 325-329 | 1 |
| 1045 | Electron spin decoherence of single nitrogen-vacancy defects in diamond. 2008, 78, | 147 |
| 1044 | Measurement of temporal correlations of the overhauser field in a double quantum dot. 2008 , 101, 236803 | 87 |
| 1043 | Single-photon transistor using microtoroidal resonators. 2008 , 78, | 31 |
| | Complex patterning by vertical interchange atom manipulation using atomic force microscopy. 2008 , 322, 413-7 | 204 |
| | Electronic characteristics of the singly ionized pair of phosphorus donors in silicon and operations with charge qubits. 2008 , 42, 655-661 | |
| 1040 | Coherent manipulation of single spins in semiconductors. <i>Nature</i> , 2008 , 453, 1043-9 | 354 |
| 1039 | Solid-state quantum memory using the 31P nuclear spin. <i>Nature</i> , 2008 , 455, 1085-1088 | 295 |
| 1038 | High-purity silicon isotopes 28Si, 29Si, and 30Si. 2008 , 44, 1395-1408 | 4 |
| 1037 | Zero-field optical manipulation of magnetic ions in semiconductors. 2008 , 7, 203-8 | 55 |
| 1036 | Electron microscopy: new directions for chemical maps. 2008 , 3, 255-6 | 14 |

| 1035 | Hybrid electron control. 2008 , 4, 590-591 | 3 |
|------|--|-----|
| 1034 | Scanning-probe spectroscopy of semiconductor donor molecules. 2008 , 4, 227-233 | 20 |
| 1033 | Probing dopants at the atomic level. 2008 , 4, 165-166 | 9 |
| 1032 | Rubbed the right way. 2008 , 4, 166-166 | 2 |
| 1031 | Gate-induced quantum-confinement transition of a single dopant atom in a silicon FinFET. 2008 , 4, 656-661 | 244 |
| 1030 | . 2008 , 96, 212-229 | 28 |
| 1029 | Low-Noise Detection System for the Counted Implantation of Single Ions in Silicon. 2008 , 55, 812-816 | 2 |
| 1028 | Optical Properties of In(Ga)As/GaAs Quantum Dots for Optoelectronic Devices. 2008, 84-131 | 1 |
| 1027 | Spin Polarization and Andreev Conductance through a Diluted Magnetic Semiconductor Quantum Wire with Spin Drbit Interaction. 2008 , 25, 3739-3741 | 4 |
| 1026 | Electric manipulation of spin relaxation using the spin Hall effect. 2008 , 101, 036601 | 456 |
| 1025 | Universal control of nuclear spins via anisotropic hyperfine interactions. 2008 , 78, | 76 |
| 1024 | High-Resolution ESR Imaging of N@C60 Radicals on a Surface. 2008 , 48, 45-51 | 4 |
| 1023 | Phonon-induced decoherence of spin-orbit-driven coherent oscillations in a single InGaAs quantum dot. 2008 , 20, 465207 | 3 |
| 1022 | Spin-dependent processes at the crystalline Si-SiO2 interface at high magnetic fields. 2008, 78, | 26 |
| 1021 | Global controllability with a single local actuator. 2008 , 78, | 30 |
| 1020 | Entanglement between charge qubits induced by a common dissipative environment. 2008, 77, | 51 |
| 1019 | Some Basic Spintronics Concepts. 2008 , 99-127 | |
| 1018 | Understanding structures and electronic/spintronic properties of single molecules, nanowires, nanotubes, and nanoribbons towards the design of nanodevices. 2008 , 18, 4510 | 56 |

| 1017 Spin echoes in the charge transport through phosphorus donors in silicon. 2008 , 100, 177602 | 55 |
|--|-----|
| Entropy and variance squeezing for time-dependent two-coupled atoms in an external magnetic field. 2008 , 41, 015502 | 32 |
| 1015 Dynamic nuclear polarization in silicon microparticles. 2008 , 100, 127601 | 69 |
| 1014 Spin resonance of electrons localized on GeBi quantum dots. 2008, 77, | 24 |
| 1013 . 2008, | 6 |
| 1012 The discovery, development and future of GMR: The Nobel Prize 2007. 2008 , 41, 093001 | 103 |
| 1011 Analysis of experimental feasibility of polar-molecule-based phase gates. 2008 , 78, | 44 |
| 1010 Hyperfine interactions in graphene and related carbon nanostructures. 2008 , 8, 1011-5 | 87 |
| 1009 Interplay of ferromagnetism and triplet superconductivity in a Josephson junction. 2008 , 77, | 44 |
| 1008 Coherent Tunneling Adiabatic Passage with the alternating coupling scheme. 2008, | |
| Study of Single-Charge Polarization on a Pair of Charge Qubits Integrated Onto a Silicon Double Single-Electron Transistor Readout. 2008 , 7, 617-623 | 6 |
| 1006 Determination of the eigenstates and wavefunctions of a single gated As donor. 2008 , | |
| 1005 Control paradigms for quantum engineering. 2008, | 2 |
| 1004 Spatial adiabatic passage as a quantum wire. 2008, | |
| 1003 Ultra long spin coherence time for Fe 3+ in ZnO: A new spin qubit. 2008 , 84, 20009 | 30 |
| Spin filtering and spin Hall accumulation in an interferometric ballistic nanojunction with Rashba spin-orbit interaction. 2008 , 77, | 24 |
| 1001 Quantum chaos, delocalization, and entanglement in disordered Heisenberg models. 2008 , 77, 021106 | 49 |
| 1000 Decoherence of a charge qubit embedded inside a suspended phonon cavity. 2008 , 77, | 10 |

| 999 | Entanglement in Ising Chain with Inhomogeneous Magnetic Field. 2008, 25, 1557-1560 | 2 |
|-----|--|-----|
| 998 | Entanglement of a two-qubit anisotropic Heisenberg XYZ chain in nonuniform magnetic fields with intrinsic decoherence. 2008 , 17, 456-461 | 11 |
| 997 | Spectator Model Dynamics in a Leakage Cavity. 2008 , 25, 3119-3122 | |
| 996 | Ion Implantation Through Thin Silicon Dioxide Layers for Si-based Solid-State Quantum Computer Device Development. 2008 , 1074, 1 | 5 |
| 995 | Dynamics of pairwise entanglement in the four-qubit Heisenberg XX spin chain. 2008 , 55, 2739-2749 | 2 |
| 994 | Numerical study of a quantum dot structure for entanglement generation. 2008 , 23, 085010 | 2 |
| 993 | Effects of inhomogeneous magnetic field on entanglement and teleportation in a two-qubit HeisenbergXXZchain with intrinsic decoherence. 2008 , 78, 045002 | 16 |
| 992 | Strategies for entangling remote spins with unequal coupling to an optically active mediator. 2008 , 10, 073027 | 7 |
| 991 | Coherent dynamics of a single spin interacting with an adjustable spin bath. 2008, 320, 352-5 | 303 |
| 990 | INDIRECT EXCHANGE COUPLING OF NUCLEAR SPINS OF MAGNETIC IMPURITIES IN 2D ELECTRON SYSTEM. 2008 , 07, 85-94 | |
| 989 | LEVEL CROSSING AND QUANTUM PHASE TRANSITION OF THE XY RING. 2008 , 22, 535-546 | 1 |
| 988 | Entanglement control in one-dimensional s = 1/2 random XY spin chain. 2008 , 17, 794-800 | 10 |
| 987 | High-level interconnect model for the quantum logic array architecture. 2008 , 4, 1-28 | 4 |
| 986 | Non-Markovian suppression of charge qubit decoherence in the quantum point contact measurement. 2008 , 129, 224106 | 10 |
| 985 | Level spectrum of a single gated arsenic donor in a three terminal geometry. 2008, 1117, 103 | |
| 984 | Atomistic Understanding of a Single Gated Dopant Atom in a MOSFET. 2008 , 1067, 1 | 2 |
| 983 | su(1,2) Algebraic Structure of XYZ Antiferromagnetic Model in Linear Spin-Wave Frame. 2008 , 49, 1151-1154 | 2 |
| 982 | H + 2 -Like Impurities Confined by Spherical Quantum Dots: a Candidate for Charge Qubits. 2008 , 50, 767-770 | 13 |

| 981 | Thermal Entanglement of a Three-Qubit Heisenberg Chain with a Nonuniform Magnetic Field. 2008 , 49, 1635-1638 | 1 |
|-----|--|----|
| 980 | Silicon as a model ion trap: Time domain measurements of donor Rydberg states. 2008 , 105, 10649-10653 | 61 |
| 979 | Single-ion irradiation: physics, technology and applications. 2008 , 41, 043001 | 10 |
| 978 | Position-dependent dynamics of two qubits in a leakage cavity. 2008 , 41, 135502 | 5 |
| 977 | Spin separation driven by quantum interference in ballistic rings. 2008 , 20, 474214 | 1 |
| 976 | Gate-controlled charge transfer in Si:P´double quantum dots. 2008 , 19, 195402 | 3 |
| 975 | Visualizing a silicon quantum computer. 2008 , 10, 125005 | 4 |
| 974 | A qualitative perspective on the dynamics of a single-Cooper-pair box with a phase-damped cavity. 2008 , 41, 185304 | 21 |
| 973 | Single atom doping for quantum device development in diamond and silicon. 2008, 26, 2596-2600 | 39 |
| 972 | Gradient ascent pulse engineering approach to CNOT gates in donor electron spin quantum computing. 2008 , | 2 |
| 971 | Dynamic nuclear polarisation in biased quantum wires with spin-orbit interaction. 2008, 81, 68001 | 7 |
| 970 | Bias spectroscopy and simultaneous single-electron transistor charge state detection of Si:P double dots. 2008 , 19, 265201 | 7 |
| 969 | Truncated States Obtained by Iteration. 2008 , 25, 517-520 | 2 |
| 968 | Controllable electron g-factors in HgMnTe quantum spheres. 2008 , 82, 37004 | 2 |
| 967 | Density dependence of spin relaxation in GaAs quantum well at room temperature. 2008, 84, 27006 | 24 |
| 966 | Modeling single-´and multiple-electron resonances for electric-field-sensitive scanning probes. 2008 , 19, 445503 | 1 |
| 965 | A reliable method for the counting and control of single ions for single-dopant controlled devices. 2008 , 19, 345202 | 39 |
| 964 | Transport spectroscopy of single Pt impurities in silicon using Schottky barrier MOSFETs. 2008 , 20, 374125 | 5 |

(2008-2008)

963 Effects of elastic heterogeneity and anisotropy on the morphology of self-assembled epitaxial quantum dots. **2008**, 104, 034902

| 962 | DYNAMICS OF ENTANGLEMENT FOR TWO-ELECTRON ATOMS. 2008 , 06, 303-316 | 6 |
|-----|---|-----|
| 961 | Long-lived spin coherence in silicon with an electrical spin trap readout. 2008, 101, 207602 | 48 |
| 960 | Crossover of electron transmission mechanism and spin filtering effect at FetaAs(001) interfaces. 2008 , 103, 07A702 | 13 |
| 959 | Room temperature single ion detection with Geiger mode avalanche diode detectors. 2008 , 93, 043124 | 15 |
| 958 | Electronic transport in phosphorus-doped silicon nanocrystal networks. 2008 , 100, 026803 | 118 |
| 957 | Negative donors in multivalley semiconductors: Diffusion quantum Monte Carlo simulations. 2008 , 77, | 5 |
| 956 | Anisotropic spatial structure of deep acceptor states in GaAs and GaP. 2008 , 77, | 19 |
| 955 | Theoretical analysis of perfect quantum state transfer with superconducting qubits. 2008, 78, | 29 |
| 954 | Direct measurement of the binding energy and bohr radius of a single hydrogenic defect in a semiconductor quantum well. 2008 , 100, 056806 | 14 |
| 953 | Decoherence dynamics of a single spin versus spin ensemble. 2008 , 77, | 45 |
| 952 | Spin density matrix of a two-electron system. II. Application to a system of two quantum dots. 2008 , 77, | 8 |
| 951 | Terahertz Zeeman spectroscopy of boron in germanium to high magnetic fields. 2008, 77, | 2 |
| 950 | Ballistic spin rotator based on a <code>Inanojunction</code> with spin-orbit interaction. 2008 , 77, | 10 |
| 949 | Intrinsic origin of spin echoes in dipolar solids generated by strong (bulses. 2008 , 77, | 33 |
| 948 | Valley splitting in Si quantum dots embedded in SiGe. 2008 , 93, 112102 | 23 |
| 947 | Electron spin relaxation via flexural phonon modes in semiconducting carbon nanotubes. 2008, 77, | 10 |
| 946 | Multiscale theory of valley splitting in the conduction band of a quantum well. 2008, 77, | 9 |

| 945 | Direct estimation of single- and two-qubit Hamiltonians and relaxation rates. 2008, 77, | 10 |
|-----|---|----|
| 944 | Universal dynamics of quantum spin decoherence in a nuclear spin bath. 2008, 77, | 2 |
| 943 | Observation of photogalvanic current for interband absorption in InN films at room temperature. 2008 , | |
| 942 | Model of valley interference effects on a donor electron close to a SiBiO2 interface. 2008, 77, | 12 |
| 941 | Corrections to the Kohn-Luttinger wave function for donors in silicon. 2008 , 77, | 5 |
| 940 | Dynamical effects of confinement on atomic valence photoionization in Mg@C60. 2008, 78, | 27 |
| 939 | Effect of microwave irradiation on the emission and capture dynamics in silicon metal oxide semiconductor field effect transistors. 2008 , 103, 104502 | 10 |
| 938 | Broadband electrically detected magnetic resonance of phosphorus donors in a silicon field-effect transistor. 2008 , 93, 072102 | 27 |
| 937 | A gate-defined silicon quantum dot molecule. 2008 , 92, 222104 | 30 |
| 936 | Development of an ion beam alignment system for real-time scanning tunneling microscope observation of dopant-ion irradiation. 2008 , 79, 073707 | 1 |
| 935 | Magneto-optics of single Rashba spintronic quantum dots subjected to a perpendicular magnetic field: Fundamentals. 2008 , 104, 083714 | 22 |
| 934 | Proposal for a loophole-free test of nonlocal realism with electron spins of donors. 2008, 77, | 2 |
| 933 | Model for monitoring of a charge qubit using a radio-frequency quantum point contact including experimental imperfections. 2008 , 77, | 14 |
| 932 | Loss in hybrid qubit-bus couplings and gates. 2008 , 78, | 39 |
| 931 | Observation of individual dopants in a thin silicon layer by low temperature Kelvin Probe Force Microscope. 2008 , 93, 142101 | 56 |
| 930 | Exchange between deep donors in semiconductors: A quantum defect approach. 2008, 77, | 5 |
| 929 | Heisenberg chains cannot mirror a state. 2008 , 78, | 9 |
| 928 | Transverse spin relaxation time in organic molecules. 2008 , 78, | 18 |

| 927 | Kondo resonance in the presence of spin-polarized currents. 2008 , 78, | 21 |
|-----|--|----|
| 926 | Crossover from the ballistic to the resonant tunneling transport for an ideal one-dimensional quantum ring with spin-orbit interaction. 2008 , 78, | 31 |
| 925 | Quantum nondemolition measurements of single donor spins in semiconductors. 2008, 78, | 28 |
| 924 | Spin density matrix of a two-electron system. I. General theory and exact master equations. 2008 , 77, | 1 |
| 923 | Hole burning in polycrystalline C60: An answer to the long pseudocoherent tails. 2008, 78, | 9 |
| 922 | Tunneling characteristics across nanoscale metal ferric junction lines into doped Si. 2008 , 92, 152118 | 1 |
| 921 | Relaxation of upper laser levels in terahertz silicon lasers. 2008, | |
| 920 | Evidence of Fano-like resonances in mono-mode magnetic circuits. 2008, 78, | 24 |
| 919 | Coherence loss and recovery of an electron spin coupled inhomogeneously to a one-dimensional interacting spin bath: An adaptive time-dependent density-matrix renormalization group study. 2008 , 78, | 1 |
| 918 | Resonant spin transport through lateral ferromagnet-quantum dot-ferromagnet sandwich device. 2008 , 103, 07B732 | 3 |
| 917 | Effect of a metallic gate on the energy levels of a shallow donor. 2008 , 92, 083104 | 13 |
| 916 | Entangled electron and nuclear spin states in 15N@C60: density matrix tomography. 2008, 128, 052305 | 23 |
| 915 | Transport spectroscopy of a single atom in a FinFET. 2008 , 109, 012003 | |
| 914 | Future Trends in Power Management. 2008 , 261-304 | |
| 913 | Signal and charge transfer efficiency of few electrons clocked on microscopic superfluid helium channels. 2008 , 92, 082104 | 22 |
| 912 | 31P Nuclear Spin Dynamics in Metallic Si:P at Very Low Temperature and High Magnetic Fields. 2009 , 78, 075003 | 4 |
| 911 | Spintronic single-qubit gate based on a \square shaped lateral quantum dot with spin-orbit interaction. 2009 , 79, | 5 |
| 910 | Electronic structure models of phosphorus 덾oped silicon. 2009 , 79, | 39 |

| 909 | Detection of a single-charge defect in a metal-oxide-semiconductor structure using vertically coupled Al and Si single-electron transistors. 2009 , 80, | 3 |
|-----|--|----|
| 908 | Realizing singlet-triplet qubits in multivalley Si quantum dots. 2009 , 80, | 51 |
| 907 | Spin-dependent scattering in a silicon transistor. 2009 , 80, | 13 |
| 906 | Tailoring effective exchange interactions via domain walls in coupled Heisenberg rings. 2009, 80, | 7 |
| 905 | Shallow donor states near a semiconductor-insulator-metal interface. 2009 , 80, | 18 |
| 904 | Lifetimes of operating states in terahertz intracenter silicon lasers. 2009, | |
| 903 | Optimal control of the silicon-based donor-electron-spin quantum computing. 2009, 79, | 13 |
| 902 | Modeling two-spin dynamics in a noisy environment. 2009 , 80, | 5 |
| 901 | Direct observation of a nuclear spin excitation in Ho2Ti2O7. 2009 , 102, 016405 | 20 |
| 900 | Optimal quantum multiparameter estimation and application to dipole- and exchange-coupled qubits. 2009 , 79, | 22 |
| 899 | Mapping and imaging for rapid atom discrimination: A study of frequency modulation atomic force microscopy. 2009 , 94, 023108 | 14 |
| 898 | Controlling quantum systems in the presence of an environment. 2009, | |
| 897 | Negative donors in bulk Si and Si/SiO2 quantum wells in a magnetic field. 2009 , 79, | 2 |
| 896 | Electrically controllable g tensors in quantum dot molecules. 2009 , 79, | 55 |
| 895 | Gate-induced g-factor control and dimensional transition for donors in multivalley semiconductors. 2009 , 80, | 35 |
| 894 | Orbital Stark effect and quantum confinement transition of donors in silicon. 2009 , 80, | 48 |
| 893 | Mapping donor electron wave function deformations at a sub-Bohr orbit resolution. 2009, 103, 106802 | 8 |
| 892 | Atomistic simulations of adiabatic coherent electron transport in triple donor systems. 2009 , 80, | 25 |

(2009-2009)

| 891 | Diffusion pathways of phosphorus atoms on silicon (001). 2009 , 79, | 14 |
|-----|---|----|
| 890 | Enhancement-mode double-top-gated metal-oxide-semiconductor nanostructures with tunable lateral geometry. 2009 , 80, | 48 |
| 889 | Model for spin coupling disorder effects on the susceptibility of antiferromagnetic nanochains. 2009 , 94, 032505 | 2 |
| 888 | Proposals of nuclear spin quantum memory in group-IV elemental and II-VI semiconductors. 2009 , 80, | 3 |
| 887 | Architecture for high-sensitivity single-shot readout and control of the electron spin of individual donors in silicon. 2009 , 80, | 70 |
| 886 | Size-dependent exciton g factor in self-assembled InAs/InP quantum dots. 2009 , 79, | 28 |
| 885 | Para-ortho transition of artificial H2 molecule in lateral quantum dots doped with magnetic impurities. 2009 , 80, | 5 |
| 884 | Nuclear spin coherence in a quantum wire. 2009 , 80, | 13 |
| 883 | Deterministic ultracold ion source targeting the Heisenberg limit. 2009, 102, 070501 | 53 |
| 882 | Dynamic nuclear polarization of S29i nuclei in isotopically controlled phosphorus doped silicon. 2009 , 80, | 27 |
| 881 | State tomography of a chain of qubits embedded in a spin field-effect transistor via repeated spin-blockade measurements on the edge qubit. 2009 , 79, | 4 |
| 880 | Tetrahedral potentials and lack-of-inversion symmetry for donors in silicon. 2009, 79, | 7 |
| 879 | Adiabatic pumping in a double quantum dot structure with strong spin-orbit interaction. 2009, 80, | 20 |
| 878 | Electric-field control of a hydrogenic donor's spin in a semiconductor. 2009 , 102, 017603 | 27 |
| 877 | Relaxation times in an open interacting two-qubit system. 2009 , 79, | 15 |
| 876 | Nuclear spin qubits in a trapped-ion quantum computer. 2009 , 79, | 6 |
| 875 | Charge transport and quantum phase transitions in singlet-superconductor junctions. 2009 , 79, | 6 |
| 874 | Valley degeneracies in (111) silicon quantum wells. 2009 , 94, 042101 | 5 |

| 873 | Quantum control and manipulation of donor electrons in Si-based quantum computing. 2009, 105, 122410 | 13 |
|-----|---|----|
| 872 | Horizontal position analysis of single acceptors in Si nanoscale field-effect transistors. 2009 , 94, 223501 | 10 |
| 871 | Well-width dependence of valley splitting in Si/SiGe quantum wells. 2009 , 95, 222109 | 7 |
| 870 | Homogeneous linewidth of the P31 bound exciton transition in silicon. 2009 , 95, 122113 | 8 |
| 869 | Fast nuclear spin hyperpolarization of phosphorus in silicon. 2009 , 102, 027601 | 47 |
| 868 | Atom-by-atom quantum state control in adatom chains on a semiconductor. 2009 , 103, 096104 | 36 |
| 867 | Transport properties of AlGaAs/GaAs parabolic quantum wells. 2009 , 105, 013712 | 14 |
| 866 | Entanglement generation by qubit scattering in three dimensions. 2009 , 80, | 17 |
| 865 | Perfect state transfer without state initialization and remote collaboration. 2009, 79, | 34 |
| 864 | Electrical manipulation of an electronic two-state system in Ge quantum dots. 2009 , 95, 232103 | 9 |
| 863 | MINIMAL EXECUTION TIME OF SHOR'S ALGORITHM AT LOW TEMPERATURES. 2009 , 07, 287-296 | |
| 862 | EFFECTS OF ANISOTROPY ON DYNAMICS OF PAIRWISE ENTANGLEMENT IN THE FOUR-QUBIT HEISENBERG XXZ MODEL. 2009 , 07, 1363-1372 | |
| 861 | Entanglement in a three-qubit anisotropic HeisenbergXXZspin ring with DzyaloshinskiilMoriya interaction. 2009 , 42, 215503 | 17 |
| 860 | An effective spin-1 Heisenberg chain in coupled cavities. 2009 , 42, 065502 | 9 |
| 859 | Non-Markovian dynamics of an interacting qubit pair coupled to two independent bosonic baths. 2009 , 42, 485301 | 29 |
| 858 | QUANTUM DYNAMICS OF DOUBLE QUBIT IN A SPIN STAR LATTICE WITH AN x II INTERACTION. 2009 , 23, 911-923 | 2 |
| 857 | Electron-spin/nuclear-spin interactions and NMR in semiconductors. 2009 , 24, 023001 | 32 |
| 856 | DYNAMICS OF PAIRWISE ENTANGLEMENT IN THE THREE-QUBIT HEISENBERG XX SPIN CHAIN. 2009 , 07, 1447-1458 | 1 |

| 855 | THERMAL ENTANGLEMENT FOR DIFFERENT INHOMOGENEOUS MAGNETIC FIELDS IN THE ANISOTROPIC HEISENBERG XY MODEL. 2009 , 23, 3081-3089 | 1 |
|-----|--|----|
| 854 | Thermal Entanglement in the Anisotropic Heisenberg XYZ Model with Different Dzyaloshinskii M oriya Couplings. 2009 , 26, 020309 | 10 |
| 853 | Effects of intrinsic decoherence on the entanglement of a two-qutrit 1D optical lattice chain with nonlinear coupling. 2009 , 18, 3251-3257 | 2 |
| 852 | Entanglement for a Bimodal Cavity Field Interacting with a Two-Level Atom. 2009, 52, 133-136 | 2 |
| 851 | Virtual states and decoherence in single impurity atom solid state quantum device. 2009 , 174, 012029 | |
| 850 | Device fabrication and transport measurements of FinFETs built with28Si SOI wafers toward donor qubits in silicon. 2009 , 24, 105022 | 7 |
| 849 | Anomalous-circular photogalvanic effect in a GaAs/AlGaAs two-dimensional electron gas. 2009 , 21, 375802 | 8 |
| 848 | Theory of Umklapp-assisted recombination of bound excitons in Si:P. 2009 , 21, 084218 | 1 |
| 847 | Coherent tunneling adiabatic passage with the alternating coupling scheme. 2009 , 20, 405402 | 20 |
| 846 | Dependence of Electrong-Factor on Barrier Aluminum Content in GaAs/AlGaAs Quantum Wells. 2009 , 48, 063002 | 4 |
| 845 | EFFECT OF DIFFERENT DZYALOSHINSKIIMORIYA INTERACTIONS ON ENTANGLEMENT IN THE HEISENBERG XYZ CHAIN. 2009 , 07, 547-557 | 9 |
| 844 | Highly Conductive and Transparent Poly(3,4-ethylenedioxythiophene):p-Toluene Sulfonate Films as a Flexible Organic Electrode. 2009 , 48, 091501 | 4 |
| 843 | Optimised focusing ion optics for an ultracold deterministic single ion source targeting nm resolution. 2009 , 56, 2061-2075 | 5 |
| 842 | Implementation of quantum gates via optimal control. 2009 , 56, 831-839 | 22 |
| 841 | Effect of elemental composition and size on electron confinement in self-assembled SiC quantum dots: A combinatorial approach. 2009 , 105, 094314 | 14 |
| 840 | Impact of Si growth rate on coherent electron transport in Si:P delta-doped devices. 2009 , 95, 142104 | 6 |
| 839 | Quantum logic gates with two-level trapped ions beyond LambDicke limit. 2009, 18, 1352-1356 | 2 |
| 838 | Effects of Electric and Magnetic Fields on Pure Dephasing of Exciton Qubits. 2009 , 51, 540-544 | _ |

| 837 | Spin-Flip Process of Polarons in Conjugated Polymers with Magnetic Impurities. 2009 , 26, 087203 | 1 |
|-------------------|---|-----|
| 836 | Room-temperature ferromagnetism in Er-doped ZnO thin films. 2009 , 60, 289-292 | 53 |
| 835 | Confinement effect in P doped spherical Si nanocrystals. 2009 , 11, 961-964 | 7 |
| 834 | Entanglement generation between two spin-s magnetic impurities in a solid via electron scattering. 2009 , 11, 931-934 | 1 |
| 833 | Quantum Logic Circuits and Optical Signal Generation for a Three-Qubit, Optically Controlled, Solid-State Quantum Computer. 2009 , 15, 1694-1703 | 1 |
| 832 | Quantum Computing. 67-109 | |
| 831 | Prospects for measurement-based quantum computing with solid state spins. 2009, 3, 556-574 | 79 |
| 830 | High-Field Phenomena of Qubits. 2009 , 36, 259-268 | 25 |
| 829 | Entanglement evolution of a two-qubit system interacting with a quantum spin environment. 2009 , 282, 4637-4642 | 1 |
| 828 | Twisted Graph States for Ancilla-driven Universal Quantum Computation. 2009 , 249, 307-331 | 14 |
| 827 | Anisotropic donor states in electric field. 2009 , 246, 1252-1256 | 1 |
| | | |
| 826 | Nuclear spins in nanostructures. 2009 , 246, 2203-2215 | 114 |
| 826 825 | Nuclear spins in nanostructures. 2009 , 246, 2203-2215 Electronfluclear interaction in 13C nanotube double quantum dots. 2009 , 5, 321-326 | 114 |
| | | |
| 825 | Electronfluclear interaction in 13C nanotube double quantum dots. 2009, 5, 321-326 | 139 |
| 825 824 | Electronfluclear interaction in 13C nanotube double quantum dots. 2009, 5, 321-326 Investigation of the spatial distribution of silicon donor pairs in a GaAs quantum well. 2009, 90, 449-454 | 139 |
| 825 824 823 | Electronfluclear interaction in 13C nanotube double quantum dots. 2009, 5, 321-326 Investigation of the spatial distribution of silicon donor pairs in a GaAs quantum well. 2009, 90, 449-454 Mapping of ion beam induced current changes in FinFETs. 2009, 267, 1222-1225 Critical issues in the formation of quantum computer test structures by ion implantation. 2009, | 139 |

| 819 | Influence of magnetic field on swap operation in Heisenberg XXZ model. 2009, 404, 1116-1118 | 1 |
|-----|--|----|
| 818 | Entanglement of a two-qubit system with anisotropic XYZ exchange coupling in a nonuniform time-dependent external magnetic field. 2009 , 404, 1719-1728 | 38 |
| 817 | Parity-measurement-based entanglement concentration. 2009 , 404, 1917-1919 | 2 |
| 816 | Neutral shallow donors near a metallic interface. 2009 , 40, 753-755 | 1 |
| 815 | Synthesis of isotopically controlled metal-catalyzed silicon nanowires. 2009 , 4, 393-398 | 15 |
| 814 | Pairwise entanglement of a three-qubit Heisenberg XY chain in a nonuniform magnetic field with intrinsic decoherence. 2009 , 388, 2254-2261 | 8 |
| 813 | Low temperature transport spectroscopy of defects using Schottky-barrier MOSFETs. 2009 , 404, 5136-5139 | |
| 812 | Direct Measurement of the Flip-Flop Rate of Electron Spins in the Solid State. 2016 , 6, | 5 |
| 811 | Atomic-precision architectures for the high-fidelity spin read-out of phosphorus donors in silicon. 2016 , | |
| 810 | Properties of strong-coupling magneto-bipolaron qubit in quantum dot under magnetic field. 2016 , 25, 077804 | 5 |
| 809 | Rotation-Based Design and Synthesis of Quantum Circuits. 2016 , 25, 1650152 | 4 |
| 808 | Advanced Computer Architecture. 2016 , | 1 |
| 807 | Entanglement dynamics in Heisenberg spin chains coupled to a dissipative environment at finite temperature. 2016 , 94, | 9 |
| 806 | Fast control of semiconductor qubits beyond the rotating-wave approximation. 2016 , 94, | 11 |
| 805 | Nanoscale Superconducting Quantum Interference Devices Add Another Dimension. 2016 , 10, 8128-32 | 3 |
| 804 | Determining the quantum-coherent to semiclassical transition in atomic-scale quasi-one-dimensional metals. 2016 , 94, | 1 |
| 803 | Nuclear spin warm up in bulk n-GaAs. 2016 , 94, | 10 |
| 802 | Optical orientation of spins in GaAs:Mn/AlGaAs quantum wells via impurity-to-band excitation. 2016 , 94, | 1 |

| 801 | A CMOS silicon spin qubit. 2016 , 7, 13575 | 254 |
|------------------|--|-----|
| 800 | Quadrupole shift of nuclear magnetic resonance of donors in silicon at low magnetic field. 2016 , 27, 494001 | 7 |
| 799 | The Path to Scalable Distributed Quantum Computing. 2016 , 49, 31-42 | 60 |
| 798 | Inhomogeneous dynamic nuclear polarization and suppression of electron polarization decay in a quantum dot. 2016 , 380, 2706-2712 | 1 |
| 797 | Quantum simulation of pairing Hamiltonians with nearest-neighbor-interacting qubits. 2016, 93, | 1 |
| 796 | Quantum state transfer in optomechanical arrays. 2016 , 93, | 31 |
| 795 | Surface code architecture for donors and dots in silicon with imprecise and nonuniform qubit couplings. 2016 , 93, | 45 |
| 794 | Donor wave functions in Si gauged by STM images. 2016 , 93, | 14 |
| 793 | Spin-valley qubit in nanostructures of monolayer semiconductors: Optical control and hyperfine interaction. 2016 , 93, | 44 |
| 792 | Controlling the flow of spin and charge in nanoscopic topological insulators. 2016 , 93, | 9 |
| 791 | Electric-field dependent g-factor anisotropy in Ge-Si core-shell nanowire quantum dots. 2016, 93, | 32 |
| 790 | Charge-noise-insensitive gate operations for always-on, exchange-only qubits. 2016 , 93, | 45 |
| 789 | Nuclear spin decoherence of neutral P31 donors in silicon: Effect of environmental Si29 nuclei. 2016 , 93, | 4 |
| 788 | Electric dipole spin resonance in systems with a valley-dependent g factor. 2016 , 93, | 12 |
| 787 | Fermionic thermocoherent state: Efficiency of electron transport. 2016 , 93, 022141 | 2 |
| 786 | Charge-Insensitive Single-Atom Spin-Orbit Qubit in Silicon. 2016 , 116, 246801 | 30 |
| 785 | Transmission Microscopy with Nanometer Resolution Using a Deterministic Single Ion Source. 2016 , 117, 043001 | 35 |
| 7 ⁸ 4 | Semiconductor-inspired design principles for superconducting quantum computing. 2016 , 7, 11059 | 17 |

A synthesis approach for ESOP-based reversible circuit. 2016, 783 29Si nuclear spin relaxation in microcrystals of plastically deformed Si: B samples. 2016, 58, 240-246 782 781 Characterizing Si:P quantum dot qubits with spin resonance techniques. 2016, 6, 31830 8 Free-Time and Fixed End-Point Multitarget Optimal Control Theory Applied to Quantum 780 Computing. 2016, 119-165 Quantum spin transistor with a Heisenberg spin chain. 2016, 7, 13070 779 44 Large Stark tuning of donor electron spin qubits in germanium. 2016, 94, 778 14 Control of valley dynamics in silicon quantum dots in the presence of an interface step. 2016, 94, 18 777 Breaking the rotating wave approximation for a strongly driven dressed single-electron spin. 2016, 20 Factorization in spin systems under general fields and separable ground-state engineering. 2016, 5 775 High-Sensitivity Charge Detection with a Single-Lead Quantum Dot for Scalable Quantum 17 774 Computation. 2016, 6, SPM for MEMS/NEMS Measurements. 2016, 191-226 773 Single shot spin readout using a cryogenic high-electron-mobility transistor amplifier at sub-Kelvin 772 34 temperatures. 2016, 108, 063101 Highly tunable exchange in donor qubits in silicon. 2016, 2, 771 31 Electrical current through individual pairs of phosphorus donor atoms and silicon dangling bonds. 7 2016, 6, 18531 A testing scheme for mixed-control based reversible circuits. 2016, 2 768 Scanning nuclear electric resonance microscopy using quantum-Hall-effect breakdown. 2016, 6, 075024 On controlling the electronic states of shallow donors using a finite-size metal gate. 2016, 50, 89-96 767 1 A computational workflow for designing silicon donor qubits. 2016, 27, 424002 766

| 765 | Spatial metrology of dopants in silicon with exact lattice site precision. 2016 , 11, 763-8 | 37 |
|-----------------|---|----|
| 764 | Reversible and Quantum Circuits. 2016, | 5 |
| 763 | The 30-band k?´p theory of valley splitting in silicon thin layers. 2016 , 28, 195303 | 1 |
| 762 | Spatial adiabatic passage: a review of recent progress. 2016 , 79, 074401 | 57 |
| 761 | Silicon epitaxy on H-terminated Si (100) surfaces at 250 °C. 2016 , 378, 301-307 | 10 |
| 760 | Power-law versus exponential relaxation of 29Si nucleus spins in Si:B crystals. 2016 , 400, 145-148 | |
| 759 | Optimizations and Complexity Analysis on the Reversible Level. 2016 , 45-89 | |
| 758 | Optimization and Complexity Analysis on the Mapping Level. 2016 , 91-140 | |
| 757 | Optimizations and Complexity Analysis on the Quantum Level. 2016 , 141-174 | |
| 756 | Literature review on: Quantum readout of spin resonance in a silicon transistor. 2016 , 1-23 | |
| 755 | Playing Quantum Games with Disentanglement-Free State. 2016 , 15, 1650002 | 1 |
| 754 | Effect of Dzyaloshinskii-Moriya Interaction on Thermal Quantum Correlation in a Two-Qubit Heisenberg XXZ Model with an Inhomogeneous External Magnetic Field. 2016 , 29, 367-374 | 2 |
| 753 | Electrical Control of g-Factor in a Few-Hole Silicon Nanowire MOSFET. 2016 , 16, 88-92 | 46 |
| 75 ² | Magnetic resonance spectroscopy and imaging for the study of fossils. 2016 , 34, 730-742 | 9 |
| 751 | A cryogenic DAC operating down to 4.2 K. 2016 , 75, 47-55 | 6 |
| 75° | Anisotropy of electron and hole g tensors of quantum dots: An intuitive picture based on spin-correlated orbital currents. 2016 , 93, | 23 |
| 749 | Silicon Quantum Information Processing. 2016 , 569-585 | |
| 748 | Correlation between strain and defects in Bi implanted Si. 2016 , 93, 27-32 | |

| 747 | Analysis of an Atom-Optical Architecture for Quantum Computation. 2016 , 407-437 | 1 |
|-----|---|----|
| 746 | Interface effects on acceptor qubits in silicon and germanium. 2016 , 27, 024003 | 8 |
| 745 | Quantum switch in coupled-resonator array: Controlling single-photon transport by the state of two-level system. 2016 , 30, 1550262 | 0 |
| 744 | Phosphorous bonding in single wall carbon nanotubes studied by X-ray photoelectron spectroscopy and DFT calculations. 2016 , 99, 1-7 | 13 |
| 743 | Principles and Methods of Quantum Information Technologies. 2016, | 9 |
| 742 | Entanglement in a four qubit J1🏿 Heisenberg XXZ system with Dzialoshinskii Moriya interaction. 2016 , 448, 10-20 | 1 |
| 741 | The interaction between a single two-level atom coupled to an . 2016 , 364, 168-181 | 6 |
| 740 | On a Quantum Algorithm for the Resolution of Systems of Linear Equations. 2016 , 37-53 | |
| 739 | High-temperature spin dynamics studied by solid-state nuclear resonance and electron paramagnetic resonance in 29Si:B crystals. 2016 , 51, 1838-1844 | |
| 738 | Entanglement in Mixed-Spin (1/2, 3/2) Heisenberg XXZ Model with Dzyaloshinskii-Moriya Interaction. 2016 , 55, 875-885 | 4 |
| 737 | Entanglement Dynamics of Two Spins in Initially Correlated Wheel-Shaped Spin Baths. 2016 , 55, 730-742 | |
| 736 | Recent Advances in Computational Optimization. 2016, | 1 |
| 735 | Charge and spin dynamics driven by ultrashort extreme broadband pulses: A theory perspective. 2017 , 672, 1-82 | 21 |
| 734 | Guided magnonic Michelson interferometer. 2017 , 7, 41472 | 6 |
| 733 | Spin decoherence of magnetic atoms on surfaces. 2017 , 92, 40-82 | 44 |
| 732 | Selective addressing and readout of optically detected electron spins. 2017, 117, 10001 | 4 |
| 731 | Atom-by-Atom Construction of a Quantum Device. 2017 , 11, 2382-2386 | 8 |
| 730 | Optically Imaged Striped Domains of Nonequilibrium Electronic and Nuclear Spins in a Fractional Quantum Hall Liquid. 2017 , 118, 076802 | 7 |

| 729 | Pure circular polarization electroluminescence at room temperature with spin-polarized light-emitting diodes. 2017 , 114, 1783-1788 | 43 |
|-----|--|----|
| 728 | In Situ Patterning of Ultrasharp Dopant Profiles in Silicon. 2017 , 11, 1683-1688 | 3 |
| 727 | Modulation of circular current and associated magnetic field in a molecular junction: A new approach. 2017 , 7, 43343 | 21 |
| 726 | Coherent control of the dynamics of a single quantum-dot exciton qubit in a cavity. 2017 , 95, | 6 |
| 725 | Annealing shallow Si/SiO2 interface traps in electron-beam irradiated high-mobility metal-oxide-silicon transistors. 2017 , 110, 123505 | 24 |
| 724 | Observation of current-induced, long-lived persistent spin polarization in a topological insulator: A rechargeable spin battery. 2017 , 3, e1602531 | 48 |
| 723 | Adsorption and spin-related properties of multi-Co atoms assembled in the half unit cells of Si(111)-(7 $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$ | 3 |
| 722 | Pretty good state transfer in qubit chainsThe Heisenberg Hamiltonian. 2017, 58, 032202 | 18 |
| 721 | Control and manipulation of quantum spin switching and spin correlations in [Tb2] molecular magnet under a pulse magnetic field. 2017 , 439, 173-180 | |
| 720 | Quantum-memory-assisted entropic uncertainty relation in a HeisenbergXYZchain with an inhomogeneous magnetic field. 2017 , 14, 065203 | 36 |
| 719 | Dynamic Polarization and Relaxation of 75As Nuclei in Silicon at High Magnetic Field and Low Temperature. 2017 , 48, 473-483 | 2 |
| 718 | Comparing the Consistency of Atom Probe Tomography Measurements of Small-Scale Segregation and Clustering Between the LEAP 3000 and LEAP 5000 Instruments. 2017 , 23, 227-237 | 11 |
| 717 | Pairwise entanglement of two impurities in the XY model. 2017 , 381, 387-391 | 3 |
| 716 | Sequential reduction of the silicon single-electron transistor structure to atomic scale. 2017 , 28, 225304 | 14 |
| 715 | From quantum optics to quantum technologies. 2017 , 54, 2-18 | 20 |
| 714 | The engineering challenges in quantum computing. 2017, | 29 |
| 713 | Nitrogen-vacancy centers created by N+ ion implantation through screening SiO2 layers on diamond. 2017 , 110, 213105 | 7 |
| 712 | Atomically engineered electron spin lifetimes of 30 s in silicon. 2017 , 3, e1602811 | 32 |

(2017-2017)

| 711 | Universal logic gates for quantum-dot electron-spin qubits using trapped quantum-well exciton polaritons. 2017 , 95, | 2 |
|-----|--|-----|
| 710 | Hamiltonian simulation with optimal sample complexity. 2017 , 3, | 17 |
| 709 | Effects of defects and dephasing on charge and spin currents in two-dimensional topological insulators. 2017 , 95, | 6 |
| 708 | Geometric algebra and information geometry for quantum computational software. 2017 , 470, 154-196 | 20 |
| 707 | Single-electron tunneling through an individual arsenic dopant in silicon. 2017 , 9, 613-620 | 33 |
| 706 | Quantum Entanglement and Discord Dynamics of two Noninteracting Spin Qubits in Two Independent Spin Baths. 2017 , 56, 874-886 | |
| 705 | Manipulating magnetism by ultrafast control of the exchange interaction. 2017, 29, 453001 | 29 |
| 704 | Spin-orbit coupling induced two-electron relaxation in silicon donor pairs. 2017 , 96, | 4 |
| 703 | Protocol for fermionic positive-operator-valued measures. 2017 , 96, | 6 |
| 702 | Operating Quantum States in Single Magnetic Molecules: Implementation of Grover's Quantum Algorithm. 2017 , 119, 187702 | 159 |
| 701 | Optoelectronics: Letting photons out of the gate. 2017 , 12, 938-939 | 2 |
| 700 | Spin dynamics of quadrupole nuclei in InGaAs quantum dots. 2017 , 95, | 4 |
| 699 | Interfacing spin qubits in quantum dots and donorsflot, dense, and coherent. 2017, 3, | 196 |
| 698 | Revealing Quantum Statistics with a Pair of Distant Atoms. 2017 , 119, 160401 | 15 |
| 697 | Coherent coupling between a quantum dot and a donor in silicon. 2017, 8, 1029 | 51 |
| 696 | High-fidelity spin measurement on the nitrogen-vacancy center. 2017 , 19, 103002 | 8 |
| 695 | Impurity-Driven Two-Dimensional Spin Relaxation Induced by Intervalley Spin-Flip Scattering in Silicon. 2017 , 7, | 2 |
| 694 | Competition between homogeneous and inhomogeneous broadening of orbital transitions in Si:Bi. 2017 , 96, | 5 |
| | | |

| 693 | Fan-out Estimation in Spin-based Quantum Computer Scale-up. 2017 , 7, 13386 | 2 |
|-----|--|------------------|
| 692 | Exact location of dopants below the Si(001):H surface from scanning tunneling microscopy and density functional theory. 2017 , 95, | 7 |
| 691 | Protecting a Diamond Quantum Memory by Charge State Control. 2017, 17, 5931-5937 | 51 |
| 690 | Atom probe tomographic assessment of the distribution of germanium atoms implanted in a silicon matrix through nano-apertures. 2017 , 28, 385301 | 3 |
| 689 | Three-electron spin qubits. 2017 , 29, 393001 | 49 |
| 688 | A photonic platform for donor spin qubits in silicon. 2017 , 3, e1700930 | 51 |
| 687 | Silicon quantum processor with robust long-distance qubit couplings. 2017 , 8, 450 | 89 |
| 686 | A method of dopant electron energy spectrum parameterization for calculation of single-electron nanodevices. 2017 , 72, 279-286 | 3 |
| 685 | Polarizing the electronic and nuclear spin of the NV-center in diamond in arbitrary magnetic fields: analysis of the optical pumping process. 2017 , 19, 073030 | 18 |
| 684 | Atomically manufactured nickellilicon quantum dots displaying robust resonant tunneling and negative differential resistance. 2017 , 2, | 6 |
| 683 | High-Fidelity Single-Shot Singlet-Triplet Readout of Precision-Placed Donors in Silicon. 2017 , 119, 046802 | 23 |
| 682 | Dopant induced single electron tunneling within the sub-bands of single silicon NW tri-gate junctionless n-MOSFET. 2017 , 50, 365104 | 5 |
| 681 | Elucidation of Dual Magnetic Relaxation Processes in Dinuclear Dysprosium(III) Phthalocyaninato Triple-Decker Single-Molecule Magnets Depending on the Octacoordination Geometry. 2017 , 23, 15377-1538 | 36 ¹⁹ |
| 680 | Spin superfluid Josephson quantum devices. 2017 , 95, | 5 |
| 679 | Intrinsic errors in transporting a single-spin qubit through a double quantum dot. 2017, 96, | 12 |
| 678 | All-electric control of donor nuclear spin qubits in silicon. 2017 , 12, 958-962 | 29 |
| 677 | Donor qubits in silicon: Electrical control of nuclear spins. 2017 , 12, 937-938 | 2 |
| 676 | Ab initio calculation of energy levels for phosphorus donors in silicon. 2017 , 7, 6010 | 8 |

| 675 | Extended Hubbard model for mesoscopic transport in donor arrays in silicon. 2017, 96, | 13 |
|-----|--|-----|
| 674 | Ion implantation for deterministic single atom devices. 2017 , 88, 123301 | 26 |
| 673 | Silicon CMOS architecture for a spin-based quantum computer. 2017 , 8, 1766 | 154 |
| 672 | Factorization and Criticality in Finite XXZ Systems of Arbitrary Spin. 2017 , 119, 220605 | 7 |
| 671 | NMR in an electric field: A bulk probe of the hidden spin and orbital polarizations. 2017, 96, | 4 |
| 670 | Scalable quantum computation scheme based on quantum-actuated nuclear-spin decoherence-free qubits. 2017 , 96, | 5 |
| 669 | Heitler-London model for acceptor-acceptor interactions in doped semiconductors. 2017, 96, | 2 |
| 668 | Spin Properties of Confined Electrons in Si. 2017 , 207-240 | |
| 667 | Spin-flip transitions in self-assembled quantum dots. 2017 , 29, 485301 | 4 |
| 666 | Noise management to achieve superiority in quantum information systems. 2017 , 375, | 2 |
| 665 | Cat-state generation and stabilization for a nuclear spin through electric quadrupole interaction. 2017 , 96, | 2 |
| 664 | Electron-nuclear spin dynamics of Ga2+ paramagnetic centers probed by spin-dependent recombination: A master equation approach. 2017 , 95, | 8 |
| 663 | Environmentally Mediated Coherent Control of a Spin Qubit in Diamond. 2017, 118, 167204 | 7 |
| 662 | Quantum information processing with superconducting circuits: a review. 2017 , 80, 106001 | 398 |
| 661 | Single-Shot Readout of a Nuclear Spin Weakly Coupled to a Nitrogen-Vacancy Center at Room Temperature. 2017 , 118, 150504 | 30 |
| 660 | Study of the distribution profile of iron ions implanted into silicon. 2017 , 51, 745-750 | 4 |
| 659 | Determining the resolution of scanning microwave impedance microscopy using atomic-precision buried donor structures. 2017 , 423, 1097-1102 | 10 |
| 658 | Multiple-Quantum Transitions and Charge-Induced Decoherence of Donor Nuclear Spins in Silicon. 2017 , 118, 246401 | 2 |

| 657 | Optical Dependence of Electrically Detected Magnetic Resonance in Lightly Doped Si:P Devices. 2017 , 7, | 5 |
|-----|--|-----|
| 656 | A dressed spin qubit in silicon. 2017 , 12, 61-66 | 42 |
| 655 | Probing the Quantum States of a Single Atom Transistor at Microwave Frequencies. 2017, 11, 2444-2451 | 14 |
| 654 | Single-electron devices in silicon. 2017 , 33, 944-962 | 11 |
| 653 | Quantum many-body theory for electron spin decoherence in nanoscale nuclear spin baths. 2017 , 80, 016001 | 60 |
| 652 | Deterministic doping. 2017 , 62, 23-30 | 22 |
| 651 | Universality of Asynchronous Circuits Composed of Locally Reversible Elements. 2017, 523-532 | |
| 650 | Optical manipulation of valley pseudospin. 2017 , 13, 26-29 | 128 |
| 649 | Iron ions distribution profile obtained by irradiating the silicon single crystal. 2017, 917, 092024 | |
| 648 | Pseudospin Electronics in Phosphorene Nanoribbons. 2017 , 8, | 14 |
| 647 | Spin qubit manipulation of acceptor bound states in group IV quantum wells. 2017, 19, 043027 | 5 |
| 646 | Single-electron transistor with an island formed by several dopant phosphorus atoms. 2017 , 72, 474-479 | 4 |
| 645 | Detection and localization of appearance faults in reversible circuits. 2017, | 1 |
| 644 | Electron spin relaxation of single phosphorus donors and donor clusters in atomically engineered silicon devices. 2017 , | |
| 643 | External Electric Field Effect on Shallow Donor Impurity States in Zinc-Blende InxGa1N/GaN Symmetric Coupled Quantum Dots. 2017 , 2017, 1-7 | 1 |
| 642 | Decoherence of the quantum logic gate implemented with the Jaynes (Iummings model: A semiclassical approach. 2017 , 2017, | |
| | | |
| 641 | Movement and Imaging of Single-Atom Dopants in Silicon. 2017 , 23, 1706-1707 | |

| 639 | First-Principles Calculations of Point Defects for Quantum Technologies. 2018, 48, 1-26 | 58 |
|-----|---|----|
| 638 | Multiple transparency windows and Fano interferences induced by dipole-dipole couplings. 2018 , 97, | 5 |
| 637 | Tutorial: Magnetic resonance with nitrogen-vacancy centers in diamondfhicrowave engineering, materials science, and magnetometry. 2018 , 123, 161101 | 42 |
| 636 | Barrier versus tilt exchange gate operations in spin-based quantum computing. 2018 , 97, | 9 |
| 635 | Electron-nuclear coherent spin oscillations probed by spin-dependent recombination. 2018, 97, | 4 |
| 634 | Strain-Induced Spin-Resonance Shifts in Silicon Devices. 2018 , 9, | 24 |
| 633 | Physical approach to quantum networks with massive particles. 2018 , 97, | 2 |
| 632 | Spin-valleytronics of silicene based nanodevices (SBNs). 2018 , 456, 199-203 | 6 |
| 631 | Development of Millimeter Wave Fabry-P[] rot Resonator for Simultaneous Electron-Spin and Nuclear Magnetic Resonance Measurement. 2018 , 39, 387-398 | 4 |
| 630 | High resolution thickness measurements of ultrathin Si:P monolayers using weak localization. 2018 , 112, 043102 | 13 |
| 629 | Room temperature magneto-optic effect in silicon light-emitting diodes. 2018 , 9, 398 | 2 |
| 628 | Calculation of the electron spin relaxation time in a quantum limit using a state-independent projection reduction method. 2018 , 57, 023001 | 1 |
| 627 | Robustness of Quantum Discord Between Two Noninteracting Qubits in Spin-Star Baths. 2018 , 191, 206-216 | 1 |
| 626 | Geometry of quantum state manifolds generated by the Lie algebra operators. 2018 , 126, 1-6 | 3 |
| 625 | Combining neural networks and signed particles to simulate quantum systems more efficiently. 2018 , 496, 62-71 | 4 |
| 624 | First-Principle Study of Phosphine Adsorption on Si(001)-2 🗆 🗖 🗖 l. 2018, 122, 1741-1745 | 15 |
| 623 | Reduced-density-matrix description of decoherence and relaxation processes for electron-spin systems: Applications to trapped atomic systems in optical lattices, semiconductor quantum dots, and vacancy defect centers in solids. 2018 , 96, 887-897 | |
| | | |

| 621 | Two-electron states of a group-V donor in silicon from atomistic full configuration interactions. 2018 , 97, | 11 |
|-----|--|----|
| 620 | Linear Hyperfine Tuning of Donor Spins in Silicon Using Hydrostatic Strain. 2018 , 120, 167701 | 25 |
| 619 | All-electronic Nanosecond-resolved Scanning Tunneling Microscopy: Facilitating the Investigation of Single Dopant Charge Dynamics. 2018 , | 1 |
| 618 | Manipulating quantum coherence of charge states in interacting double-dot Aharonov B ohm interferometers. 2018 , 20, 043043 | 4 |
| 617 | Observation of non-Markovianity at room temperature by prolonging entanglement in solids. 2018 , 63, 336-339 | 11 |
| 616 | Entanglement and quantum state geometry of a spin system with all-range Ising-type interaction. 2018 , 51, 175305 | 8 |
| 615 | Electron-nuclear spin dynamics of Ga centers in GaAsN dilute nitride semiconductors probed by pump-probe spectroscopy. 2018 , 133, 1 | 4 |
| 614 | The quantitative analysis of silicon carbide surface smoothing by Ar and Xe cluster ions. 2018 , 421, 27-31 | 8 |
| 613 | Reaction paths of alane dissociation on the Si(0 0 1) surface. 2018 , 30, 105002 | 1 |
| 612 | Homo-endotaxial one-dimensional Si nanostructures. 2017 , 10, 260-267 | 3 |
| 611 | Isotope engineering of van der Waals interactions in hexagonal boron nitride. 2018, 17, 152-158 | 66 |
| 610 | Influences of temperature on asymmetric quantum dot qubit in Coulombic impunity potential. 2018 , 92, 587-594 | 10 |
| 609 | Model Design of Quantum Logic Circuits Based on Reed-Muller Expressions. 2018, | 0 |
| 608 | Dendrimers as Dopant Atom Carriers. 2018, | |
| 607 | Creation of Quantum Centers in Silicon using Spatial Selective Ion Implantation of high Lateral Resolution. 2018 , | 3 |
| 606 | Phonon-induced decoherence of a charge quadrupole qubit. 2018 , 20, 103048 | 5 |
| 605 | Nuclear-spin-polarization dynamics of H2, D2, and HD molecules in magnetic fields. 2018 , 98, | 1 |
| 604 | Spin relaxation of a donor electron coupled to interface states. 2018 , 98, | O |

| 603 | NMR study of optically hyperpolarized phosphorus donor nuclei in silicon. 2018, 98, | 1 |
|---------------------------------|--|-------------------|
| 602 | Hydrogen adsorption induced nanomagnetism at the Si(111)-(7团) surface. 2018 , 98, | 2 |
| 601 | Electron exchange energy of neutral donors inside a quantum well. 2018 , 98, | 4 |
| 600 | Towards Atomic-Scale Fabrication in Silicon. 2018 , 24, 158-159 | |
| 599 | Hydrogen resist lithography and electron beam lithography for fabricating silicon targets for studying donor orbital states. 2018 , 1079, 012010 | 4 |
| 598 | Si ion beams from Penning ion source based implanter systems for near-surface isotopic purification of silicon. 2018 , 89, 123305 | 10 |
| 597 | Quantum Dipole Effects in a Silicon Transistor under High Electric Fields. 2018, 87, 094801 | |
| 596 | First principles calculation of spin-related quantities for point defect qubit research. 2018 , 4, | 31 |
| 595 | Derivation and Numerical analysis of an Attenuation Operator for non-relativistic waves. 2018 , 8, 16572 | 1 |
| | | |
| 594 | Introduction to Isotopic Materials Science. 2018, | О |
| 594 593 | Introduction to Isotopic Materials Science. 2018, Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018, 4, | 9 |
| | | |
| 593 | Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018 , 4, Demonstration of Fidelity Improvement Using Dynamical Decoupling with Superconducting Qubits. | 9 |
| 593 592 | Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018 , 4, Demonstration of Fidelity Improvement Using Dynamical Decoupling with Superconducting Qubits. 2018 , 121, 220502 Gate fidelity comparison in semiconducting spin qubit implementations affected by control noises. | 9 |
| 593 592 591 | Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018 , 4, Demonstration of Fidelity Improvement Using Dynamical Decoupling with Superconducting Qubits. 2018 , 121, 220502 Gate fidelity comparison in semiconducting spin qubit implementations affected by control noises. 2018 , 2, 115022 | 9 47 4 |
| 593 592 591 | Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018, 4, Demonstration of Fidelity Improvement Using Dynamical Decoupling with Superconducting Qubits. 2018, 121, 220502 Gate fidelity comparison in semiconducting spin qubit implementations affected by control noises. 2018, 2, 115022 SpinBrbit coupling in silicon for electrons bound to donors. 2018, 4, | 9 47 4 9 |
| 593 592 591 590 589 | Spin decoherence in a two-qubit CPHASE gate: the critical role of tunneling noise. 2018, 4, Demonstration of Fidelity Improvement Using Dynamical Decoupling with Superconducting Qubits. 2018, 121, 220502 Gate fidelity comparison in semiconducting spin qubit implementations affected by control noises. 2018, 2, 115022 SpinBrbit coupling in silicon for electrons bound to donors. 2018, 4, Partitioned density matrices and entanglement correlators. 2018, 98, | 9 47 4 9 |

| 585 | Electrical manipulation of semiconductor spin qubits within the g-matrix formalism. 2018, 98, | 12 |
|-----|---|-----|
| 584 | Effect of device design on charge offset drift in Si/SiO single electron devices. 2018, 124, | 2 |
| 583 | HerringElicker coupling and thermal quantum correlations in bipartite system. 2018, 17, 1 | 2 |
| 582 | Two-dimensional semiconductors pave the way towards dopant-based quantum computing. 2018 , 9, 2668-2673 | 3 |
| 581 | Stability and coherence of strong-coupling magneto-bipolaron in asymmetric quantum dot under laser field effect. 2018 , 382, 3490-3499 | 8 |
| 580 | Hyperfine interaction of individual atoms on a surface. 2018 , 362, 336-339 | 40 |
| 579 | Signatures of atomic-scale structure in the energy dispersion and coherence of a Si quantum-dot qubit. 2018 , 98, | 10 |
| 578 | . 2018 , 6, 594-600 | 33 |
| 577 | Tuning spin dynamics and localization near the metal-insulator transition in Fe/GaAs heterostructures. 2018 , 98, | |
| 576 | Preparation of an arbitrary two-qubit quantum gate on two spins with an anisotropic Heisenberg interaction. 2018 , 16, 1850044 | 1 |
| 575 | Robust electric dipole transition at microwave frequencies for nuclear spin qubits in silicon. 2018 , 98, | 9 |
| 574 | Cascade capture of charge carriers in highly doped semiconductors. 2018 , 124, 085704 | |
| 573 | . 2018 , 54, 1-9 | 3 |
| 572 | Quantum technologies with optically interfaced solid-state spins. 2018 , 12, 516-527 | 337 |
| 571 | Valley Filtering in Spatial Maps of Coupling between Silicon Donors and Quantum Dots. 2018, 8, | 8 |
| 570 | Electrical spin manipulation in graphene nanostructures. 2018 , 97, | 10 |
| 569 | Characterization of a Scalable Donor-Based Singlet-Triplet Qubit Architecture in Silicon. 2018 , 18, 4081-4085 | 7 |
| 568 | Silicon Qubits. 2018 , 467-477 | 9 |

| 567 | Electronics and Communication. 2018 , 431-485 | | 1 |
|-----|---|--------|----|
| 566 | The influence of side-coupled quantum dots on thermoelectric effect of parallel-coupled double quantum dot system. 2018 , 545, 377-382 | | 10 |
| 565 | Defects for quantum information processing in silicon. 2018 , 241-263 | | |
| 564 | Defect-enabled room-temperature spin functionalities in a nonmagnetic semiconductor. 2018 , 265-284 | | |
| 563 | Hyperfine-assisted fast electric control of dopant nuclear spins in semiconductors. 2018, 97, | | 3 |
| 562 | Measurements and atomistic theory of electron g-factor anisotropy for phosphorus donors in strained silicon. 2018 , 98, | | 2 |
| 561 | Entanglement control and magic angles for acceptor qubits in Si. 2018, 113, 012102 | | 5 |
| 560 | Improved circuit synthesis approach for exclusive-sum-of-product-based reversible circuits. 2018 , 12, 167-175 | | 2 |
| 559 | Addressable electron spin resonance using donors and donor molecules in silicon. 2018 , 4, eaaq1459 | | 15 |
| 558 | Modeling the photo-induced inverse spin-Hall effect in Pt/semiconductor junctions. 2018, 124, 033902 | | 12 |
| 557 | Directed Atom-by-Atom Assembly of Dopants in Silicon. 2018 , 12, 5873-5879 | | 41 |
| 556 | Loschmidt echo driven by hyperfine and electric-quadrupole interactions in nanoscale nuclear spin baths. 2018 , 98, | | 1 |
| 555 | Semi-analytical modeling of high performance nano-scale complementary logic gates utilizing ballistic carbon nanotube transistors. 2018 , 104, 286-296 | | 24 |
| 554 | Implementation of neareast neighbor quantum circuit with low quantum cost. 2018, | | |
| 553 | Silicon gains ground in quantum-computing race. <i>Nature</i> , 2018 , 553, 136-137 | 50.4 | 3 |
| 552 | Direct Imaging of Low-Dimensional Nanostructures. 2018 , 24, 90-91 | | |
| 551 | Logical Qubit in a Linear Array of Semiconductor Quantum Dots. 2018 , 8, | | 26 |
| 550 | Thermodynamic effects of single-qubit operations in silicon-based quantum computing. 2018 , 382, 2113 | 3-2117 | 1 |

549 Dopant atoms as quantum components in silicon nanoscale devices. **2018**, 39, 061003

| 548 | Transmission Coefficient Matrix Modeling of Spin-Torque-Based \$n\$ -Qubit Architecture. 2018 , 26, 1461-147 | '0 ₄ |
|-----|---|-----------------|
| 547 | Impact of valley phase and splitting on readout of silicon spin qubits. 2018, 97, | 6 |
| 546 | Quantum entanglement in the neighborhood of pseudo-transition for a spin-1/2 Ising-XYZ diamond chain. 2018 , 465, 323-327 | 6 |
| 545 | Development of Very-Low-Temperature Millimeter-Wave Electron-Spin-Resonance Measurement System. 2018 , 49, 783-801 | 4 |
| 544 | Introduction to topological quantum computation with non-Abelian anyons. 2018 , 3, 045004 | 21 |
| 543 | Clifford+T-based quantum high speed multiplier. 2018 , | |
| 542 | Building a Generalized Peres Gate with Multiple Control Signals. 2019 , 155-164 | 2 |
| 541 | Spin-Blockade Spectroscopy of Si/Si-Ge Quantum Dots. 2019 , 12, | 12 |
| 540 | A Review on Quantum Computing: From Qubits to Front-end Electronics and Cryogenic MOSFET Physics. 2019 , | 23 |
| 539 | 2D materials for quantum information science. 2019 , 4, 669-684 | 146 |
| 538 | Optically controlled entangling gates in randomly doped silicon. 2019 , 100, | 1 |
| 537 | Atom-by-Atom Fabrication of Single and Few Dopant Quantum Devices. 2019 , 29, 1903475 | 17 |
| 536 | All-optical generation of quantum entangled states with strictly constrained ultrafast laser pulses. 2019 , 100, | 13 |
| 535 | Interaction without back action in the context of quantum manipulation. 2019, 100, | |
| 534 | Impact of optically induced carriers on the spin relaxation of localized electron spins in isotopically enriched silicon. 2019 , 99, | 1 |
| 533 | Strongly-coupled electron and nuclear spin systems in InGaAs epilayers. 2019 , 1199, 012002 | 0 |
| 532 | Investigation of Quantum-Dot Characteristic Based on Different Bulk Silicon FinFET Device Models. 2019 , | 1 |

| 531 | Synthesis of quantum images using phase rotation. 2019 , 18, 1 | 3 |
|-----|--|--------------|
| 530 | A two-qubit gate between phosphorus donor electrons in silicon. <i>Nature</i> , 2019 , 571, 371-375 50. | 4 113 |
| 529 | Fast and space-efficient spin sensing. 2019 , 14, 735-736 | |
| 528 | Single-electron transport characteristics in double quantum dots system. 2019, | |
| 527 | Single-Electron Structures Based on Solitary Dopant Atoms of Arsenic, Phosphorus, Gold, and Potassium in Silicon. 2019 , 74, 165-170 | 4 |
| 526 | Towards long-distance quantum networks with superconducting processors and optical links. 2019 , 4, 045003 | 10 |
| 525 | Strong polarization of individual nuclear spins weakly coupled to nitrogen-vacancy color centers in diamond. 2019 , 21, 093065 | 4 |
| 524 | Quantum error correction: an introductory guide. 2019 , 60, 226-245 | 30 |
| 523 | Kraus operator formalism for quantum multiplexer operations for arbitrary two-qubit mixed states. 2019 , 18, 1 | 0 |
| 522 | Entanglement conductance as a characterization of a delocalized-localized phase transition in free fermion models. 2019 , 100, | 1 |
| 521 | Spin-orbit-coupled quantum memory of a double quantum dot. 2019 , 100, | 4 |
| 520 | Toward Long-Range Entanglement between Electrically Driven Single-Molecule Magnets. 2019 , 10, 7347-73 | 355 6 |
| 519 | Quantum Materials with Atomic Precision: Artificial Atoms in Solids: Ab Initio Design, Control, and Integration of Single Photon Emitters in Artificial Quantum Materials. 2019 , 29, 1904557 | 9 |
| 518 | Investigating the formation of isotopically pure layers for quantum computers using ion implantation and layer exchange. 2019 , 461, 30-36 | 3 |
| 517 | Hyperfine-assisted decoherence of a phosphorus nuclear-spin qubit in silicon. 2019 , 100, | 0 |
| 516 | Elimination of Thermomechanical Noise in Piezoelectric Optomechanical Crystals. 2019 , 123, 093603 | 17 |
| 515 | Intrasystem Entanglement Generator and Unambiguos Bell States Discriminator on Chip. 2019, | 0 |
| 514 | Deterministic Single-Ion Implantation of Rare-Earth Ions for Nanometer-Resolution Color-Center Generation. 2019 , 123, 106802 | 32 |

Polaronic and bound polaronic effects in the energy states of an electron in a two-dimensional parabolic quantum dot in the presence of Rashba spin-orbit interaction. **2019**,

| 512 | Coherent spin-state transfer via Heisenberg exchange. <i>Nature</i> , 2019 , 573, 553-557 | 50.4 | 39 |
|-----|--|------|-----|
| 511 | Quantum defects by design. 2019 , 8, 1867-1888 | | 32 |
| 510 | Optimal choice of state tomography quorum formed by projection operators. 2019 , 100, | | 1 |
| 509 | Emerging rare-earth doped material platforms for quantum nanophotonics. 2019, 8, 2003-2015 | | 49 |
| 508 | Spin bath dynamics and dynamical renormalization group. 2019 , 100, | | 1 |
| 507 | Magnonic Circuits: Comb Structures. 2019 , 53-110 | | 2 |
| 506 | Magnons in Nanometric Discrete Structures. 2019 , 143-183 | | |
| 505 | A Survey on quantum computing technology. 2019 , 31, 51-71 | | 121 |
| 504 | Calculation of the electron spin relaxation time in GaAs by an acoustic piezoelectric phonon scattering. 2019 , 58, 043002 | | |
| 503 | Electric Field Control of Spins in Molecular Magnets. 2019 , 122, 037202 | | 43 |
| 502 | A Classical View of Quantum Time Crystals. 2019 , 12, | | |
| 501 | A quantum engineer's guide to superconducting qubits. 2019 , 6, 021318 | | 358 |
| 500 | Fractional-order quantum particle swarm optimization. 2019 , 14, e0218285 | | 6 |
| 499 | The Second Quantum Revolution: Role and Challenges of Molecular Chemistry. 2019 , 141, 11339-11352 | | 128 |
| 498 | Benchmarking high fidelity single-shot readout of semiconductor qubits. 2019 , 21, 063011 | | 7 |
| 497 | Tensor-network approach to compute genuine multisite entanglement in infinite quantum spin chains. 2019 , 99, | | 2 |
| 496 | Enhancement of nuclear spin coherence times by driving dynamic nuclear polarization at defect centers in solids. 2019 , 99, | | 2 |

| 495 | Electron spin relaxation of single phosphorus donors in metal-oxide-semiconductor nanoscale devices. 2019 , 99, | 6 |
|-----|---|----|
| 494 | Preparation of pseudo-pure states for NMR quantum computing with one ancillary qubit. 2019 , 62, 1 | 9 |
| 493 | Charting the Australian quantum landscape. 2019 , 4, 020505 | 11 |
| 492 | Direct evaluation of nuclear spin fluctuation by using nuclear spin switch in single quantum structures. 2019 , 58, SBBH05 | 3 |
| 491 | Thermal entanglement and thermal discord in two-qubit Heisenberg XYZ chain with Dzyaloshinskii Moriya interactions. 2019 , 18, 1 | 15 |
| 490 | Fast two-quadrature adiabatic quantum gates for weakly nonlinear qubits: a tight-binding approach. 2019 , 18, 1 | O |
| 489 | Effect of phonon induced spin-flip processes on correlated quantum dot kinetics. 2019, 113, 8-13 | 2 |
| 488 | High-fidelity spin and optical control of single silicon-vacancy centres in silicon carbide. 2019 , 10, 1954 | 99 |
| 487 | Quantum Computing Circuits and Devices. 2019 , 36, 69-94 | 18 |
| 486 | The shielding effects of a C cage on the magnetic moments of transition metal atoms inside the corner holes of Si(111)-(7 $\[T]$). 2019 , 11, 6228-6234 | 2 |
| 485 | Geometry and speed of evolution for a spin-s system with long-range zz-type Ising interaction. 2019 , 405, 38-53 | 3 |
| 484 | Initialization of Single Spin Dressed States using Shortcuts to Adiabaticity. 2019 , 122, 090502 | 26 |
| 483 | Efficiently embedding QUBO problems on adiabatic quantum computers. 2019, 18, 1 | 18 |
| 482 | DFT/NEGF study of discrete dopants in Si/III-V 3D FET. 2019 , 31, 144003 | 2 |
| 481 | Simple model for electrical hole spin manipulation in semiconductor quantum dots: Impact of dot material and orientation. 2019 , 99, | 11 |
| 480 | Electron spin relaxations of phosphorus donors in bulk silicon under large electric field. 2019 , 9, 2951 | 1 |
| 479 | Towards atomic and close-to-atomic scale manufacturing. 2019 , 1, 012001 | 60 |
| 478 | Spectrally Stable Defect Qubits with no Inversion Symmetry for Robust Spin-To-Photon Interface. 2019 , 11, | 26 |

| 477 | Protection of Logical Qubits via Optimal State Transfers. 2019 , 11, | 2 |
|-----|--|----|
| 476 | Optimized Compilation of Aggregated Instructions for Realistic Quantum Computers. 2019, | 29 |
| 475 | High-fidelity optical quantum gates based on type-II double quantum dots in a nanowire. 2019 , 99, | 5 |
| 474 | Entangling spins in double quantum dots and Majorana bound states. 2019 , 99, | 6 |
| 473 | Integrated high electron mobility transistors in GaAs/AlGaAs heterostructures for amplification at sub-Kelvin temperatures. 2019 , 114, 053104 | 3 |
| 472 | Probing the geometry of two-qubit state space by evolution. 2019 , 18, 1 | 3 |
| 471 | Bandwidth-Limited and Noisy Pulse Sequences for Single Qubit Operations in Semiconductor Spin Qubits. 2019 , 21, 1042 | 78 |
| 47° | A Quantum Cellular Automata Type Architecture with Quantum Teleportation for Quantum Computing. 2019 , 21, 1235 | 78 |
| 469 | Quantum speed limit time of a spin qubit in noninteracting spin bath. 2019 , 17, 1950054 | 1 |
| 468 | A Short Communication: Hasret Theory Quantum Observation Caused by the Filling of a Helium-3 Electron Hole in an INVIZICLOUD via a Celalettin-Field Quantum Observation Tunnel 2019, 12, 387-390 | |
| 467 | Lanthanide molecules for spin-based quantum technologies. 2019 , 1-54 | 6 |
| 466 | Perspectives on deterministic control of quantum point defects by scanned probes. 2019 , 8, 2033-2040 | 6 |
| 465 | Finite element and finite difference algorithms for calculations of electron spectra in the system of isolated donor-quantum dot. 2019 , | |
| 464 | Realization of Universal Quantum Gates with Spin-Qudits in Colloidal Quantum Dots. 2019 , 2, 1900017 | 4 |
| 463 | Bias-induced circular spin current: Effects of environmental dephasing and disorder. 2019, 100, | 5 |
| 462 | Single-Shot Readout Performance of Two Heterojunction-Bipolar-Transistor Amplification Circuits at Millikelvin Temperatures. 2019 , 9, 16976 | 9 |
| 461 | DNA origami cryptography for secure communication. 2019 , 10, 5469 | 36 |
| 460 | Entanglement Evolution in a Heisenberg Spin Dimer. 2019 , 55, 1-3 | 1 |

| 459 | A Quantum Computation Model for Molecular Nanomagnets. 2019 , 18, 1027-1039 | 5 |
|-----|---|----|
| 458 | Polyanisotropic Magnetoelectric Coupling in an Electrically Controlled Molecular Spin Qubit. 2019 , 141, 19765-19775 | 9 |
| 457 | Correlated impurity complex in the asymmetric tunneling contact: an ideal system to observe negative tunneling conductivity. 2019 , 9, 15974 | 2 |
| 456 | Optimal dispersive readout of a spin qubit with a microwave resonator. 2019 , 100, | 4 |
| 455 | Self-Heating in 28 FDSOI UTBB MOSFETs at Cryogenic Temperatures. 2019 , | 2 |
| 454 | Enhancing the dipolar coupling of a S-T qubit with a transverse sweet spot. 2019 , 10, 5641 | 7 |
| 453 | Frequency analysis of entanglement dynamics in coupled quantum oscillators. 2019, | |
| 452 | Entanglement and Entropy of a Three-Qubit System Interacting with a Quantum Spin Environment. 2019 , 9, 5222 | О |
| 451 | Network architecture for a topological quantum computer in silicon. 2019 , 4, 025003 | 10 |
| 450 | Electronic Raman scattering as a probe for investigating interactions between impurities in silicon. 2019 , 50, 595-602 | 1 |
| 449 | Semiconductor quantum computation. 2019 , 6, 32-54 | 49 |
| 448 | Spin pumping from nuclear spin waves. 2019 , 15, 22-26 | 8 |
| 447 | Technological innovation. 2019 , 17-53 | |
| 446 | Towards a Multi Target Quantum Computational Logic. 2020 , 25, 87-104 | 2 |
| 445 | Effect of the Noise on Generalized Peres Gate Operation. 2020 , 428-437 | 1 |
| 444 | Evolution of lattice defects upon Bi-doping of epitaxial Si overlayers on Si(1 0 0). 2020 , 502, 144284 | |
| 443 | Influence of a Longitudinal Field on the Large In-Plane Nuclear Field Formation in Single Quantum Dots. 2020 , 257, 1900381 | |
| | | |

Implementation of Tavis Cummings model in solid-state defect qubits: Diamond nitrogen-vacancy center. **2020**, 27, 446-453

| 440 | Toward Scalable Fabrication of Atomic Wires in Silicon by Nanopatterning Self-Assembled Molecular Monolayers. 2020 , 2, 275-281 | 2 |
|-----|--|----|
| 439 | A silicon quantum-dot-coupled nuclear spin qubit. 2020 , 15, 13-17 | 33 |
| 438 | CNOT gate operation on a photogenerated molecular electron spin-qubit pair. 2020 , 152, 014503 | 29 |
| 437 | Laser control of polariton using LandauZenerBtakelberg interferometry theory. 2020, 135, 1 | 2 |
| 436 | Material platforms for defect qubits and single-photon emitters. 2020 , 7, 031308 | 37 |
| 435 | Spontaneous emission in anisotropic dielectrics. 2020 , 102, | 3 |
| 434 | Rashba-controlled two-electron spin-charge qubits as building blocks of a quantum computer. 2020 , 34, 2040058 | O |
| 433 | A comparative study of system size dependence of the effect of non-unitary channels on different classes of quantum states. 2020 , 19, 1 | |
| 432 | Valley interference and spin exchange at the atomic scale in silicon. 2020 , 11, 6124 | 7 |
| 431 | A Quantum Computational Approach to Correspondence Problems on Point Sets. 2020, | 5 |
| 430 | Time optimal control of two-level quantum systems. 2020 , 384, 126743 | 1 |
| 429 | Laser spectroscopy of indium Rydberg atom bunches by electric field ionization. 2020 , 10, 12306 | 2 |
| 428 | Superconducting quantum computing: a review. 2020 , 63, 1 | 46 |
| 427 | Hole-phonon interactions in quantum dots: Effects of phonon confinement and encapsulation materials on spin-orbit qubits. 2020 , 102, | 3 |
| 426 | Theoretical Investigation of Nonequilibrium Spin Transport Through a Triple Site Quantum Wire System. 2020 , 33, 3469-3485 | |
| 425 | Chemical Reaction Rates for Systems with Spin-Orbit Coupling and an Odd Number of Electrons: Does Berry's Phase Lead to Meaningful Spin-Dependent Nuclear Dynamics for a Two State Crossing?. 2020 , 124, 7355-7372 | 11 |
| 424 | Photon-mediated entanglement scheme between a ZnO semiconductor defect and a trapped Yb ion. 2020 , 117, 154002 | O |

| 423 | Quantum circuit optimization using quantum Karnaugh map. 2020 , 10, 15651 | 6 |
|-----|---|------|
| 422 | Donor Spins in Silicon for Quantum Technologies. 2020 , 3, 2000005 | 13 |
| 421 | Framework for atomic-level characterisation of quantum computer arrays by machine learning. 2020 , 6, | 7 |
| 420 | Solar Energy Conversion in Communities. 2020 , | 1 |
| 419 | Optical manipulation of the negative silicon-vacancy center in diamond. 2020 , 102, | |
| 418 | Entanglement dynamics of two coupled spins interacting with an adjustable spin bath: effect of an exponential variable magnetic field. 2020 , 19, 1 | 1 |
| 417 | Exploiting a Single-Crystal Environment to Minimize the Charge Noise on Qubits in Silicon. 2020 , 32, e200336 | 1 12 |
| 416 | Electrically tuned hyperfine spectrum in neutral Tb(II)(Cp) single-molecule magnet. 2020 , 22, 21793-21800 | 3 |
| 415 | Path-Independent Quantum Gates with Noisy Ancilla. 2020 , 125, 110503 | 7 |
| 414 | Efficient Hamiltonian programming in qubit arrays with nearest-neighbor couplings. 2020 , 102, | 1 |
| 413 | Non-Markovianity of a Central Spin Interacting with a Lipkin-Meshkov-Glick Bath via a Conditional Past-Future Correlation. 2020 , 22, | 3 |
| 412 | Quantum Entanglement in Spin Dimers: Effects of a Magnetic Field and Heterogeneous g-Factors. 2020 , 55, 292-298 | 1 |
| 411 | A Multi-Electrode System for the Implementation of Solid-State Quantum Devices Based on a Disordered System of Dopant Atoms in Silicon. 2020 , 75, 331-335 | |
| 410 | Dimensionality-enhanced quantum state transfer in long-range-interacting spin systems. 2020 , 101, | 2 |
| 409 | Theory of Quantum Computation With Magnetic Clusters. 2020 , 1, 1-8 | 1 |
| 408 | Fast noise-resistant control of donor nuclear spin qubits in silicon. 2020 , 101, | 2 |
| 407 | Quadrupolar interactions between acceptor pairs in p-doped semiconductors. 2020, 101, | 2 |
| 406 | Toward Valley-Coupled Spin Qubits. 2020 , 3, 1900123 | 11 |

| 405 | Ab Initio Prediction of Noncollinear Magnetic States of the Quantum Phosphorus Qubit in a Silicon Lattice. 2020 , 11, 4427-4429 | O |
|-----|---|-----|
| 404 | Variability and Fidelity Limits of Silicon Quantum Gates Due to Random Interface Charge Traps. 2020 , 1-1 | 2 |
| 403 | Scanned Single-Electron Probe inside a Silicon Electronic Device. 2020 , 14, 9449-9455 | 2 |
| 402 | Alternative scheme of universal optical programmable multi-qubit gates for polarization qubits. 2020 , 19, 1 | 2 |
| 401 | Distribution of entanglement Hamiltonian spectrum in free fermion models. 2020 , 93, 1 | |
| 400 | Adiabatic quantum estimation: A numerical study of the Heisenberg XX model with antisymmetric exchange. 2020 , 2040001 | 1 |
| 399 | Electronic and mechanical properties of silicene after nuclear transmutation doping with phosphorus. 2020 , 55, 11367-11381 | 7 |
| 398 | Quantum Computer Systems: Research for Noisy Intermediate-Scale Quantum Computers. 2020 , 15, 1-227 | 1 |
| 397 | Nanotechnology: the road ahead. 2020 , 289-308 | 1 |
| 396 | An Approach for Detection and Localization of Missing Gate Faults in Reversible Circuit. 2020 , 1-21 | 1 |
| 395 | Role of Rashba spin-orbit interaction on polaron Zeeman effect in a two-dimensional quantum dot with parabolic confinement. 2020 , 506, 166745 | 4 |
| 394 | Shamir's Secret Sharing for Authentication without Reconstructing Password. 2020, | 1 |
| 393 | Coherent electrical control of a single high-spin nucleus in silicon. <i>Nature</i> , 2020 , 579, 205-209 50.4 | 38 |
| 392 | Manipulation of circular currents in a coupled ring system: effects of connectivity and non-uniform disorder. 2020 , 32, 325303 | O |
| 391 | Quantum computational chemistry. 2020 , 92, | 256 |
| 390 | Remarkable Rashba spin splitting induced by an asymmetrical internal electric field in polar III-VI chalcogenides. 2020 , 22, 9148-9156 | 10 |
| 389 | Atomic-Scale Patterning of Arsenic in Silicon by Scanning Tunneling Microscopy. 2020 , 14, 3316-3327 | 18 |
| 388 | Micromotion-enhanced fast entangling gates for trapped-ion quantum computing. 2020 , 101, | 2 |

| 387 | Coherent Multispin Exchange Coupling in a Quantum-Dot Spin Chain. 2020, 10, | 8 |
|--------------------------|---|-------------|
| 386 | Self-Heating in FDSOI UTBB MOSFETs at Cryogenic Temperatures and its Effect on Analog Figures of Merit. 2020 , 8, 789-796 | 5 |
| 385 | Electron-electron interactions in low-dimensional Si:P delta layers. 2020 , 101, | 1 |
| 384 | Quantum Speedup for Aeroscience and Engineering. 2020 , 58, 3715-3727 | 6 |
| 383 | Evolution of hyperbranched polyglycerols as single-dopant carriers. 2020 , 592, 124608 | 2 |
| 382 | SuperconductorBemiconductor hybrid-circuit quantum electrodynamics. 2020 , 2, 129-140 | 49 |
| 381 | Complete state tomography of a quantum dot spin qubit. 2020 , 101, | 1 |
| 380 | FPGA Implementation of Bio-Inspired Computing Architecture Based on Simple Neuron Model. 2020 , | 1 |
| 379 | Rescaling Interactions for Quantum Control. 2020 , 13, | 1 |
| 378 | Quantum effects in the brain: A review. 2020 , 2, 022901 | 16 |
| | | |
| 377 | Dynamic nuclear polarization and ESR hole burning in As doped silicon. 2020 , 22, 10227-10237 | 2 |
| 377 376 | Dynamic nuclear polarization and ESR hole burning in As doped silicon. 2020 , 22, 10227-10237 Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A first-principles study. 2020 , 250, 123021 | 2 |
| | Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A | 2 |
| 376 | Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A first-principles study. 2020 , 250, 123021 Spin textures and Larmor precession of holes modulated by the spin-orbit coupling confined in the | |
| 376 375 | Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A first-principles study. 2020 , 250, 123021 Spin textures and Larmor precession of holes modulated by the spin-orbit coupling confined in the two-dimensional Si Ge mixed-alloy quantum well system. 2020 , 32, 095302 | 1 |
| 376 375 374 | Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A first-principles study. 2020, 250, 123021 Spin textures and Larmor precession of holes modulated by the spin-orbit coupling confined in the two-dimensional Si Ge mixed-alloy quantum well system. 2020, 32, 095302 A Matrix Representation of Quantum Circuits over Non-Adjacent Qudits. 2021, 60, 515-533 Spin texture and Berry phase for heavy-mass holes confined in SiGe mixed-alloy two-dimensional system: Intersubband interaction via the coexistence of Rashba and Dresselhaus spin-orbit | 1 |
| 376 375 374 373 | Direct bandgap silicon through strain engineering of type-VIII silicon clathrate Si46: A first-principles study. 2020, 250, 123021 Spin textures and Larmor precession of holes modulated by the spin-orbit coupling confined in the two-dimensional Si Ge mixed-alloy quantum well system. 2020, 32, 095302 A Matrix Representation of Quantum Circuits over Non-Adjacent Qudits. 2021, 60, 515-533 Spin texture and Berry phase for heavy-mass holes confined in SiGe mixed-alloy two-dimensional system: Intersubband interaction via the coexistence of Rashba and Dresselhaus spin-orbit interactions. 2021, 389, 127091 A congestion-aware mixed integer linear programming model for placement and scheduling of | 1 1 0 |

| 369 | Effects of Kaplan-Shekhtman-Entin-Wohlman-Aharony Interactions on the Non-markovian Dynamics of Quantum Discord Under Different Magnetic Fields. 2021 , 0-0 | 1 |
|-----|---|----|
| 368 | Advances in ultrashallow doping of silicon. 2021 , 6, 1871407 | 1 |
| 367 | Influence of sample momentum space features on scanning tunnelling microscope measurements. 2021 , 13, 16070-16076 | 0 |
| 366 | Microwaves in Quantum Computing. 2021 , 1, | 18 |
| 365 | A quantum state readout method based on a single ancilla qubit. 2021 , 0-0 | |
| 364 | Isotopic enrichment of silicon by high fluence 28Sillon implantation. 2021 , 5, | 1 |
| 363 | Low-temperature environments for quantum computation and quantum simulation*. 2021, 30, 020702 | O |
| 362 | Semiconductor qubits in practice. 2021 , 3, 157-177 | 38 |
| 361 | Random Sequence Generation using Superconducting Qubits. 2021, | 1 |
| 360 | Development of an ESR/NMR Double-Magnetic-Resonance System for Use at Ultra-low Temperatures and in High Magnetic Fields and Its Use for Measurements of a Si Wafer Lightly Doped with 31P. 2021 , 52, 305-315 | 1 |
| 359 | Natural heavy-hole flopping mode qubit in germanium. 2021 , 3, | 5 |
| 358 | Low Temperature Relaxation of Donor Bound Electron Spins in ^{28}Si:P. 2021 , 126, 137402 | O |
| 357 | Coherent electric field manipulation of Fe spins in PbTiO. 2021 , 7, | 4 |
| 356 | Evolution of Rutherford ion beam science to applied research activities at GNS Science. 1-18 | 1 |
| 355 | Efficient microwave-to-optical single-photon conversion with a single flying circular Rydberg atom. 2021 , 29, 9942-9959 | 1 |
| 354 | Toward Smart Information Processing with Synthetic DNA Molecules. 2021 , 42, e2100084 | O |
| 353 | Universal quantum gates, artificial neurons, and pattern recognition simulated by LC resonators. 2021 , 3, | 1 |
| 352 | Quantum guidelines for solid-state spin defects. | 43 |

| 351 | Millimeter-Wave Band Resonator with Surface Coil for DNPIMR Measurements. 2021 , 52, 317-335 | O |
|-----|---|---|
| 350 | Realizing quinary charge states of solitary defects in two-dimensional intermetallic semiconductor 2022 , 9, nwab070 | 1 |
| 349 | AlCl3-Dosed Si(100)-2 🗈: Adsorbates, Chlorinated Al Chains, and Incorporated Al. 2021 , 125, 11336-11347 | 9 |
| 348 | Measuring entanglement of a rank-2 mixed state prepared on a quantum computer. 2021 , 136, 1 | 2 |
| 347 | A High-Sensitivity Charge Sensor for Silicon Qubits above 1 K. 2021 , 21, 6328-6335 | 1 |
| 346 | Synthetic tuning of the quantum properties of open-shell radicaloids. 2021 , 7, 1363-1378 | 1 |
| 345 | Robustness of 2 IN IM entangled states against qubit loss. 2021 , 400, 127322 | 2 |
| 344 | Few-qubit quantum refrigerator for cooling a multi-qubit system. 2021 , 11, 12981 | 1 |
| 343 | Detection of arsenic donor electrons using gate-pulse-induced spin-dependent recombination in silicon transistors. 2021 , 118, 263504 | |
| 342 | Observation of Single-Electron Transport and Charging on Individual Point Defects in Atomically Thin WSe2. 2021 , 125, 14056-14064 | Ο |
| 341 | A room-temperature four-terminal spin field effect transistor. 2021 , 38, 101138 | 2 |
| 340 | Coherent control of a donor-molecule electron spin qubit in silicon. 2021 , 12, 3323 | 4 |
| 339 | Describing angular momentum conventions in circularly polarized optically pumped NMR in GaAs and CdTe. 2021 , 327, 106980 | Ο |
| 338 | Nuclear Spin Readout in a Cavity-Coupled Hybrid Quantum Dot-Donor System. 2021 , 2, | 1 |
| 337 | A study of the formation of isotopically pure 28Si layers for quantum computers using conventional ion implantation. 2021 , 54, 355105 | 0 |
| 336 | Recent progress in atomistic modelling and simulations of donor spin qubits in silicon. 2021 , 193, 110280 | 1 |
| 335 | Atomic-precision advanced manufacturing for Si quantum computing. 2021 , 46, 607-615 | 6 |
| 334 | Berry phase induced entanglement of hole-spin qubits in a microwave cavity. 2021 , 104, | O |

| 333 | Full configuration interaction simulations of exchange-coupled donors in silicon using multi-valley effective mass theory. 2021 , 23, 073007 | 1 |
|-----|---|----|
| 332 | Controlled Implantation of Phosphorous Atoms into a Silicon Surface Lattice with a Scanning Tunneling Microscopy Tip. 2021 , 3, 3338-3345 | O |
| 331 | Mechanism of Electron-Beam Manipulation of Single-Dopant Atoms in Silicon. 2021 , 125, 16041-16048 | 0 |
| 330 | Silicon photonic quantum computing with spin qubits. 2021 , 6, 070901 | 4 |
| 329 | Perspective on exchange-coupled quantum-dot spin chains. 2021 , 119, 030501 | 2 |
| 328 | Materials and device simulations for silicon qubit design and optimization. 2021, 46, 634-641 | 2 |
| 327 | Excited states of a phosphorus pair in silicon: Combining valley-orbital interaction and electron-electron interactions. 2021 , 104, | О |
| 326 | Synthesis and investigation of small g-values for smart spinel ferrite nanoparticles. 2021, 869, 159334 | 2 |
| 325 | Derivation of the robustness from the concurrence. 2021 , 36, 2150166 | О |
| 324 | Novel characterization of dopant-based qubits. 2021 , 46, 616-622 | 3 |
| 323 | Spatially Resolved Decoherence of Donor Spins in Silicon Strained by a Metallic Electrode. 2021, 11, | 0 |
| 322 | Dynamic magnetic field entanglement stabilization. 2021 , 38, 2451 | |
| 321 | Single-electron spin resonance in a nanoelectronic device using a global field. 2021, 7, | 11 |
| 320 | Ab initio calculation of the equilibrium quantum state for a hole qubit and the electrostatic characteristics of the B:Si system. 2021 , 20, 1959-1963 | |
| 319 | Quantum interference effects in multi-channel correlated tunneling structures. 2021, 11, 17676 | |
| 318 | Donor-based qubits for quantum computing in silicon. 2021 , 8, 031314 | 4 |
| 317 | Long-range two-hybrid-qubit gates mediated by a microwave cavity with red sidebands. 2021, 104, | О |
| 316 | Dephasing of Exchange-Coupled Spins in Quantum Dots for Quantum Computing. 2021 , 4, 2100018 | 1 |

(2016-2021)

| 315 | Influence of inhomogeneous magnetic field on the qutrit teleportation via XXZ Heisenberg chain under intrinsic decoherence. 2021 , 247, 167948 | 1 |
|---------------------------------|--|--------------|
| 314 | Cost-efficient simulations of large-scale electronic structures in the standalone manycore architecture. 2021 , 267, 108078 | О |
| 313 | On the VCO/Frequency Divider Interface in Cryogenic CMOS PLL for Quantum Computing Applications. 2021 , 10, 2404 | 1 |
| 312 | Spin-transfer torque driven localized spin excitations in the presence of field-like torque. 2021 , 584, 126319 | |
| 311 | Damage-Free Atomic-Scale Etching and Surface Enhancements by Electron-Enhanced Reactions: Results and Simulations. 2021 , 603-627 | О |
| 310 | Distilling nanoscale heterogeneity of amorphous silicon using tip-enhanced Raman spectroscopy (TERS) via multiresolution manifold learning. 2021 , 12, 578 | 7 |
| 309 | Solid State Qubits. 2021 , 269-301 | |
| 308 | Conditional quantum operation of two exchange-coupled single-donor spin qubits in a MOS-compatible silicon device. 2021 , 12, 181 | 15 |
| 307 | Nanostructures: A Solution to Quantum Computation and Energy Problems. 2021 , 83-107 | О |
| | | |
| 306 | Atomic, molecular, charge manipulation and application of atomic force microscopy. 2021 , 70, 136802-13680 | 2 2 |
| 306 305 | Atomic, molecular, charge manipulation and application of atomic force microscopy. 2021 , 70, 136802-13680 Solid-State Spin Qubits. 2021 , 259-273 | 2 2 |
| | | 2 2 |
| 305 | Solid-State Spin Qubits. 2021, 259-273 | |
| 305 | Solid-State Spin Qubits. 2021 , 259-273 Molecular and Nanoscale Computing and Technology. 2006 , 477-509 | 3 |
| 305 304 303 | Solid-State Spin Qubits. 2021, 259-273 Molecular and Nanoscale Computing and Technology. 2006, 477-509 Spintronics, Quantum Computing, and Quantum Communication in Quantum Dots. 2002, 241-265 | 3 |
| 305 304 303 302 | Solid-State Spin Qubits. 2021, 259-273 Molecular and Nanoscale Computing and Technology. 2006, 477-509 Spintronics, Quantum Computing, and Quantum Communication in Quantum Dots. 2002, 241-265 Quantum Challenges. 1999, 1-28 | 3 3 |
| 305 304 303 302 301 | Solid-State Spin Qubits. 2021, 259-273 Molecular and Nanoscale Computing and Technology. 2006, 477-509 Spintronics, Quantum Computing, and Quantum Communication in Quantum Dots. 2002, 241-265 Quantum Challenges. 1999, 1-28 Encyclopedia of Complexity and Systems Science. 2009, 5745-5783 | 3 3 19 |

| 297 | Quantum Computing and Its Potential for Turbulence Simulations. 2015 , 124-132 | 2 |
|-------------|--|----|
| 296 | Spin Quantum Computing with Endohedral Fullerenes. 2017 , 297-324 | 11 |
| 295 | Principles of Josephson-Junction-Based Quantum Computation. 2008, 315-368 | 2 |
| 294 | Quantum Associative Pattern Retrieval. 2008 , 103-113 | 3 |
| 293 | Spin Properties of Confined Electrons in Si. 2008 , 179-209 | 1 |
| 292 | A Robust and Fast Method to Compute Shallow States without Adjustable Parameters: Simulations for a Silicon-Based Qubit. 2009 , 221-239 | 1 |
| 291 | Photon-Assisted Tunneling in Quantum Dots. 2009 , 241-258 | 1 |
| 2 90 | Single-Electron-Spin Measurements in Si-Based Semiconductor Nanostructures. 2009 , 81-100 | O |
| 289 | Si/SiGe Quantum Devices, Quantum Wells, and Electron-Spin Coherence. 2009, 101-127 | 2 |
| 288 | Quantitative Treatment of Decoherence. 2009 , 141-167 | 1 |
| 287 | Measuring the Charge and Spin States of Electrons on Individual Dopant Atoms in Silicon. 2009 , 169-182 | 1 |
| 286 | Entanglement Generation by a Three-Dimensional Qubit Scattering: Concurrence vs. Path (In)Distinguishability. 2010 , 17-25 | 1 |
| 285 | Implementation of State Transfer Hamiltonians in Spin Chains with Magnetic Resonance Techniques. 2014 , 183-222 | 4 |
| 284 | Silicon Atomic Quantum Dots Enable Beyond-CMOS Electronics. 2014 , 33-58 | 20 |
| 283 | Silicon Atomic Quantum Dots Enable Beyond-CMOS Electronics. 2014 , 33-58 | 10 |
| 282 | Computational Opportunities and CAD for Nanotechnologies. 2010 , 137-173 | 1 |
| 281 | Quantum Computation and Spin Electronics. 2000 , 399-428 | 5 |
| 2 80 | Superconducting Devices for Quantum Computation. 2002 , 165-212 | 3 |

| 279 | Optoelectronic Manipulation of Spin in Semiconductors. 2004 , 49-60 | 1 |
|-----|---|--------|
| 278 | MAGNETOTRANSPORT PROPERTIES OF ULTRATHIN METALLIC MULTILAYERS: MICROSTRUCTURAL MODIFICATIONS LEADING TO SENSOR APPLICATIONS. 2001 , 65-130 | 2 |
| 277 | Perspectives for NMR Quantum Computation and Quantum Information. 2007, 221-241 | 1 |
| 276 | Silicon quantum computer. <i>Nature</i> , | 50.4 2 |
| 275 | Towards visualisation of central-cell-effects in scanning tunnelling microscope images of subsurface dopant qubits in silicon. 2017 , 9, 17013-17019 | 4 |
| 274 | Nanoscale ion implantation using focussed highly charged ions. 2020 , 22, 083028 | 5 |
| 273 | Atomic-layer doping of SiGe heterostructures for atomic-precision donor devices. 2018, 2, | 1 |
| 272 | Graphane with carbon dimer defects: Robust in-gap states and a scalable two-dimensional platform for quantum computation. 2019 , 3, | 4 |
| 271 | Spin-orbit driven electrical manipulation of the zero-field splitting in high-spin centers in solids. 2020 , 2, | 5 |
| 270 | Why Ferromagnetic Semiconductors?. 2001 , 100, 139-151 | 31 |
| 269 | Optical Properties of Manganese-Doped Individual CdTe Quantum Dots. 2005 , 108, 527-540 | 4 |
| 268 | Macroscopic Schr¶dinger cat state swapping in optomechanical system. 2020 , 28, 9587-9602 | 6 |
| 267 | Atomic-scale observation and control of the reaction of phosphine with silicon. 2006 , 4, 609-613 | 5 |
| 266 | Nuclear Spins in a Nanoscale Device for Quantum Information Processing. 2006 , 4, 669-673 | 2 |
| 265 | Electrostatic Potential Fluctuations on Oxide-Passivated Si(111) Surfaces Measured Using Integrated Scanning Probe Microscopy. 2011 , 9, 117-121 | 3 |
| 264 | Spin polarization in semimagnetic semiconductor two-barrier spin filters. 2008 , 10, 42-46 | 1 |
| 263 | Phonon-assisted relaxation and decoherence of singlet-triplet qubits in Si/SiGe quantum dots. 2, 70 | 8 |
| 262 | Quantum computers: can they be made 'large'?. 1999 , 169, 691 | 4 |

| 261 | Tunneling spectroscopy of the localized states of individual impurity atoms on a semiconductor surface. 2000 , 170, 575 | 2 |
|-----|--|----|
| 260 | Entangled quantum states of atomic systems. 2001 , 171, 625 | 33 |
| 259 | Chernogolovka 2000: Mesoscopic and strongly correlated electron systems The current state of quantum mesoscopics. 2001 , 171, 1099 | 5 |
| 258 | Circular photogalvanic effect in nanostructures. 2002 , 172, 1461 | 7 |
| 257 | Quantum computers and quantum computations. 2005 , 175, 3 | 50 |
| 256 | High-Capacity Quantum Associative Memories. 2016 , 04, 2079-2112 | 4 |
| 255 | Preparation and study of the entanglement of the Schr¶dinger cat state on the ibmq-melbourne quantum computer. 2020 , 23, 43001 | 2 |
| 254 | Dirac Formulation for Universal Quantum Gates and Shorl Integer Factorization in High-frequency Electric Circuits. 2020 , 89, 124712 | 3 |
| 253 | Single-Electron Charging in Phosphorus Donors in Silicon Observed by Low-Temperature Kelvin Probe Force Microscope. 2011 , 50, 08LB10 | 3 |
| 252 | Characterization of Highly Concentrated Bi Donors Wire-Doped in Si. 2012 , 51, 11PE05 | 2 |
| 251 | Quantum mechanical modelling of phosphorus qubits in silicene under constrained magnetization 2021 , 11, 33890-33894 | |
| 250 | Progress in the research of Silicon and Germanium quantum computing materials. 2021 , 0-0 | |
| 249 | Semiconductor Quantum Computing: Toward a CMOS Quantum Computer on Chip 2021, 2-14 | 2 |
| 248 | Introduction. 2021, 1-8 | |
| 247 | Silicon qubit devices. 2021 , 20, 265-293 | |
| 246 | Quantum computing: A taxonomy, systematic review and future directions. | 21 |
| 245 | Deterministic Shallow Dopant Implantation in Silicon with Detection Confidence Upper-Bound to 99.85% by Ion-Solid Interactions. 2021 , e2103235 | 5 |
| 244 | Quantum coherent spinBlectric control in a molecular nanomagnet at clock transitions. | 6 |

Generation-Q Computing: Where Do You Want to Go Tomorrow?. 2000, 191-215 243 Quantum Computation. 2000, 139-151 Exploring The Ultimate Limits of Control: Quantum Networks for Non-Classical Information 241 Processing. **2000**, 431-442 Soliton Quantum Bit. 2001, 449-457 240 Quantum Computation. 2001, 20-23 239 Bibliography. 2001, 535-547 238 Quantum Computation: Theory, Practice, and Future Prospects. 2001, 253-260 237 Spintronics and Quantum Dots for Quantum Computing and Quantum Communication. 2002, 83-104 236 Quantum Computation Using Artificial Molecules. 2002, 348-356 235 Nanodevices for Quantum Computing Using Photons. 2003, 183-193 234 Isotope Separation of Silicon by Use of Mid-Infrared Free Electron Laser. 2003, 31, 824-828 233 Superconducting quantum bit based on the Cooper pair box. 2003, 173-195 232 Novel process of isotope separation of silicon by use of IR FEL. 2003, 552-555 231 Toward Quantum Computational Agents. 2004, 170-186 230 Polaron effects in exchange clusters (V2+**E**-**V**2+ in KMgF3). **2005**, 8, 30-38 229 228 Decoherence of a Quantum Bit Circuit. 2006, 125-149 Simulation of the single qubit Phase operation in an ionized P2 donor molecule implanted on Si 227 semiconductor material. 2006, 820-821 Brief Historical Survey and Perspectives. 2007, 1-7 226

| 225 | Quantum computation with donor-based qubits in silicon cavities. 2007, | |
|-----|--|------|
| 224 | Basic Facts of Nuclei. 2007 , 1-7 | |
| 223 | Molecular Electronic Computing Architectures. 2007, 5-1-5-28 | |
| 222 | Nuclear spin manipulation in interfaces of diluted magnetic semiconductors. 2008, 59-63 | |
| 221 | Novel pulsed electron spin resonance system and studies of phosphorus in natural silicon. 2008 , 455-45 | 8 |
| 220 | Manipulation of Nuclear Spins in Interfaces of Diluted Magnetic Semiconductors. 2008, 6, 7-10 | |
| 219 | Quantum computation with donor-based qubits in silicon photonic cavities. 2008, | |
| 218 | Nanoscale Materials Modification for Device Applications. 2009 , 329-355 | |
| 217 | Atom Manipulation on Semiconductor Surfaces. 2009 , 169-190 | |
| 216 | References. 2009 , 208-216 | |
| 215 | Conclusions. 2009 , 201-202 | |
| 214 | Effects of Perturbations. 2009 , 347-429 | |
| 213 | The Straggling of Dissociation Distance in Molecular Beam Implantation. 2010 , 130, 2182-2187 | |
| 212 | Schottky anomaly observed in 31P NMR for 31P-doped Si. 2010 , 1, 19-24 | |
| 211 | Quantum Computation: Principles and Solid-State Concepts. | |
| 210 | Semiconductor-Based Quantum Logic Gates. 2011 , 311-332 | |
| 209 | Silicon quantum computer a possibility. <i>Nature</i> , | 50.4 |
| 208 | Characterization process of emission sources of spin entangled pairs with several species. 2011 , | |

Properties of a Rubidium Isotope Ion Beam Extracted from a Laser Ion Source. 2011, 50, 066301 207 Exploiting the Quantum Nature of Photons. 2012, 221-245 206 Atomic-Scale Devices in Silicon by Scanning Tunneling Microscopy. 2012, 181-196 205 Classical and Quantum Information - Pages 689-707. 2012, 689-707 204 Quantum Transport Theory of Direct Current Conductivity in the Presence of SpinDrbit 203 Interaction. 2012, 51, 053002 5.5 Zero-dimensional systems (quantum dots). 2013, 75-88 202 Introduction. 2013, 1-33 201 Ultrafast Optical Control of Hole Spin Qubits: Suppressed Nuclear Feedback Effects. 2013, 83-97 200 Single-Electron Tunneling Transistors Utilizing Individual Dopant Potentials. 2013, 305-324 199 1 198 Single-Ion Implantation for Quantum Computing. 2013, Theory and Simulations of Controlled Electronic States Bound to a Single Dopant in Silicon. 2013, 197 Single-Donor Transport Spectroscopy in Ultimate Silicon Transistors. 2013, 196 Orbital Structure and Transport Characteristics of Single Donors. 2013, 195 Coherent Quantum Control of Donor States in Silicon with THz and MIR Light: A Route Towards a 194 Scalable Quantum Computing Architecture. 2014, 63-74 Quantum teleportation in an XXZ spin chain system with three-site interaction. 2014, 63, 110305 193 DNA for nano-bio scale computation of chemical formalisms using Higher Order Logic (HOL) and 192 analysis using an interdisciplinary approach. 2014, 17, 1391-1396 Encyclopedia of Complexity and Systems Science. 2015, 1-69 191 Introduction and Essential Physics. 2016, 1-62 190

Conclusion and Outlook. 2016, 133-136 189 188 Introduction. 2016, 1-12 Nuclear Spin Dynamics(T^*_2). 2016, 105-132 187 Dopant-Atom Silicon Tunneling Nanodevices. 2015, 181-206 186 Background. 2016, 9-43 185 Programmable Two-Particle Bosonic-Fermionic Quantum Simulation System. 2016, 142-156 184 183 Spin Quantum Computing. 2016, 71-103 Nie tylko grafen[□]. **2016**, 182 Introduction. 2017, 1-26 181 180 Band Engineering of Dangling-Bond Wires on the Si(100)H Surface. 2017, 83-93 Experimental Investigation of Quantum Correlation in Solid-State Spin System. 2017, 485-497 179 178 Nanosilicon for quantum information. 2017, 637-654 Application of Isotopic Materials Science in Bulk and Low-Dimensional Structures. 2018, 139-278 177 An Approach for Detection of Node Displacement Fault (NDF) in Reversible Circuit. 2019, 605-616 176 Physics and Applications of NanoSQUIDs. 2019, 555-585 1 175 Deposition of Cr Atoms Using Switching-Detuning Light Mask for Direct Atom Lithography. 2019, 174 15, 626-630 Optoelectronic Properties and Applications of Quantum Dots. 2019, 503-536 173 Research Trends in Silicon Quantum Bit Devices. 2019, 85, 1052-1056

| 171 | Cluster-based Haldane states in spin-1/2 cluster chains. 2020 , 2, | 1 |
|-----|--|---|
| 170 | Material matters in superconducting qubits. 2021 , 146, 100646 | 8 |
| 169 | Scaling Up Bit-Flip Quantum Error Correction. 2020 , | |
| 168 | Geometrical Effects on Exchange Coupling in System of Near-Surface Donors and Quantum Dots. 2020 , 54, 1904-1906 | |
| 167 | The Dynamical Model of Flying-Qubit Control Systems. 2020 , 53, 299-303 | 1 |
| 166 | Artificial Intelligence in Medicine Using Quantum Computing in the Future of Healthcare. 2021, 1-24 | |
| 165 | Quantum Metrological Matrices for Sustainable Graphentronics. 2020 , 315-326 | 2 |
| 164 | Advanced 3D Integration Technologies in Various Quantum Computing Devices. 2021, 1-1 | O |
| 163 | Quantum Permutation Synchronization. 2021, | 8 |
| 162 | Fully Tunable Hyperfine Interactions of Hole Spin Qubits in Si and Ge Quantum Dots. 2021 , 127, 190501 | Ο |
| 161 | Exploring the nonlocal advantage of quantum coherence and Bell nonlocality in the Heisenberg XYZ chain. 2020 , 17, 095202 | |
| 160 | Quantum Computer Development with Single Ion Implantation. 2005 , 233-245 | O |
| 159 | NMR Quantum Information Processing. 2005 , 15-44 | |
| 158 | The Road to a Silicon Quantum Computer. 2005 , 105-113 | |
| 157 | Controlling Spin Qubits in Quantum Dots. 2005 , 115-132 | |
| 156 | Spin amplifier for single spin measurement. 2006 , 306-312 | |
| 155 | Control of nuclear spins by quantum Hall edge channels. 2006 , 322-329 | |
| 154 | Spin Coherence and Manipulation in Si/Sige Quantum Wells. 2004 , 379-390 | |

| 153 | Spin-Based Quantum Dot Quantum Computing. 83-114 | |
|-----|--|--|
| 152 | Quantum Information: Entanglement, Purification, Error Correction, and Quantum Optical Implementations. 2002 , 199-239 | |
| 151 | Quantum Coupling in Quantum Dot Molecules. 2008 , 239-266 | |
| 150 | Physical Implementations of Quantum Computation. 2007 , 281-310 | |
| 149 | Optical Bistability, Optical Computing, Spintronics and Quantum Computing. 2007, 655-684 | |
| 148 | Large-Scale Integration of Quantum Dot Devices on MBE-Based Quantum Wire Networks. 2007, 639-664 | |
| 147 | Impurity Nanostructures and Quantum Interference in Superconductors. 2008, 225-258 | |
| 146 | Building a quantum computer (invited). 2020 , | |
| 145 | Materials at Atomic Scale. 2021 , 1-40 | |
| 144 | Robust control of quantum systems by quantum systems. 2021 , 104, o | |
| 143 | Opinion: Democratizing Spin Qubits. 5, 584 | |
| 142 | Invariant subspaces of two-qubit quantum gates and their application in the verification of quantum computers. 2021 , 104, | |
| 141 | Monolithic Three-Dimensional Tuning of an Atomically Defined Silicon Tunnel Junction. 2021 , 21, 10092-10098 _O | |
| 140 | Infrared absorption cross sections, and oscillator strengths of interstitial and substitutional double donors in silicon. 2021 , 5, | |
| 139 | Quantum Magnetism. 2021 , 261-280 | |
| 138 | Dopant precursor adsorption into single-dimer windows: Towards guided self-assembly of dopant arrays on Si(100). 2022 , 787, 139258 | |
| 137 | Intraband Spin-Dependent Recombination of Bound Holes in Silicon 2021 , 127, 256801 | |
| 136 | Quantum Computing and Simulations for Energy Applications: Review and Perspective. 4 | |

| 135 | Antisite defect qubits in monolayer transition metal dichalcogenides 2022 , 13, 492 | 3 |
|-----|---|----|
| 134 | Tunable gyromagnetic augmentation of nuclear spins in diamond. 2022 , 105, | |
| 133 | Universal set of quantum gates for the flip-flop qubit in the presence of 1/f noise. 2022, 9, | 2 |
| 132 | Pulse-level noisy quantum circuits with QuTiP. 6, 630 | 3 |
| 131 | Harnessing the Quantum Behavior of Spins on Surfaces 2022 , e2107534 | 1 |
| 130 | Controlling the real-time dynamics of a spin coupled to the helical edge states of the Kane-Mele model. 2022 , 105, | Ο |
| 129 | Precision tomography of a three-qubit donor quantum processor in silicon <i>Nature</i> , 2022 , 601, 348-353 50.4 | 15 |
| 128 | Parallel Gate Operations Fidelity in a Linear Array of Flip-Flop Qubits. 2100133 | О |
| 127 | Coherent Spin Preparation of Indium Donor Qubits in Single ZnO Nanowires 2022, | |
| 126 | Nanomaterials for Quantum Information Science and Engineering 2022 , e2109621 | 6 |
| 125 | Hidden Treasures of Semiconducting Materials for Quantum Computing. 2022, 132-153 | |
| 124 | Artificial Intelligence in Medicine Using Quantum Computing in the Future of Healthcare. 2022 , 423-446 | 1 |
| 123 | Quantum information processing with nuclear spins mediated by a weak-mechanically controlled electron spin. | |
| 122 | Framework for Donor-Qubit Spatial Metrology in Silicon with Depths Approaching the Bulk Limit. 2022 , 17, | |
| 121 | Exploring the Effects of Intrinsic Decoherence on Quantum-Memory-Assisted Entropic Uncertainty Relation in a Heisenberg Spin Chain Model. 2022 , 61, 1 | О |
| 120 | Photoassisted ionization spectroscopy of few implanted bismuth orbitals in a silicon-on-insulator device. 2022 , 120, 073503 | |
| 119 | Floquet vortex states induced by light carrying an orbital angular momentum. 2022, 105, | О |
| 118 | Quantum Technologies for Engineering: the materials challenge. 2022 , 2, 013002 | O |

| 117 | Exploration of Defect Dynamics and Color Center Qubit Synthesis with Pulsed Ion Beams. 2022, 6, 13 | O |
|-----|---|----|
| 116 | A 9.2-GHz clock transition in a Lu(II) molecular spin qubit arising from a 3,467-MHz hyperfine interaction 2022 , | 9 |
| 115 | Entangling spin and charge degrees of freedom in semiconductor quantum dots. 2022, 105, | |
| 114 | Ultra-shallow dopant profiles as in-situ electrodes in scanning probe microscopy 2022 , 12, 3783 | |
| 113 | Encoding Two-Qubit Logical States and Quantum Operations Using the Energy States of a Physical System. 2022 , 10, 1 | 0 |
| 112 | Scaling silicon-based quantum computing using CMOS technology. 2021 , 4, 872-884 | 10 |
| 111 | Pulse engineering of a global field for robust and universal quantum computation. 2021, 104, | 3 |
| 110 | Quantum computation protocol for dressed spins in a global field. 2021 , 104, | 2 |
| 109 | Materials for Silicon Quantum Dots and their Impact on Electron Spin Qubits. 2022 , 32, 2105488 | 2 |
| 108 | Silicon-based Quantum Computing: High-density, High-temperature Qubits. 2021, | 1 |
| 107 | Superconducting Circuit Companion⊞n Introduction with Worked Examples. 2021, 2, | О |
| 106 | Quantum Channel Information Theory. 2022 , 397-450 | |
| 105 | Error rate reduction of single-qubit gates via noise-aware decomposition into native gates 2022 , 12, 6379 | 0 |
| 104 | Particle Swarm Optimization Algorithm and Its Applications: A Systematic Review. 1 | 9 |
| 103 | Quantum Engineered Devices Based on Two-Dimensional Materials for Next-Generation Information Processing and Storage 2022 , e2109894 | 2 |
| 102 | Stroboscopic Hamiltonian engineering in the low-frequency regime with a one-dimensional quantum processor. 2022 , 105, | O |
| 101 | Path Integral Framework for Characterizing and Controlling Decoherence Induced by Nonstationary Environments on a Quantum Probe. 2022 , 3, | О |
| 100 | Shallow dopant pairs in silicon: An atomistic full configuration interaction study. 2022, 105, | O |

| 99 | Algebraic structure of path-independent quantum control. 2022, 4, | O |
|----|--|----|
| 98 | Impact of the valley orbit coupling on exchange gate for spin qubits in silicon. 2022 , 8, | O |
| 97 | Magnetization in CNT induced by nitrogen doping and enhanced by transversal electric field application. 1 | O |
| 96 | Spin-Electric Coupling with Anisotropy-Induced Vanishment and Enhancement in Molecular Ferroelectrics 2022 , | 2 |
| 95 | Flopping-Mode Electric Dipole Spin Resonance in Phosphorus Donor Qubits in Silicon. 2022, 17, | 1 |
| 94 | Ytterbium Nuclear-Spin Qubits in an Optical Tweezer Array. 2022 , 12, | 3 |
| 93 | Emerging qubit systems: Guest editorial. 2022 , 120, 190401 | |
| 92 | Quantum magnonics: When magnon spintronics meets quantum information science. 2022 , 965, 1-74 | 11 |
| 91 | Interpretation of 28 nm FD-SOI quantum dot transport data taken at 1.4 K using 3D quantum TCAD simulations. 2022 , 194, 108355 | О |
| 90 | Quantum algorithms for simulation of quantum chemistry problems by quantum computers: an appraisal. 1 | |
| 89 | Assembly and coherent control of a register of nuclear spin qubits 2022, 13, 2779 | 3 |
| 88 | Preparation of Single-Crystal Isotopically Enriched 70Ge by a Hydride Method. 2022 , 58, 246-251 | |
| 87 | Optically induced nuclear spin pin couplings in GaAs manifested by spin echo decays under optical pumping. 2022 , 8, | |
| 86 | Thermal activation of low-density Ga implanted in Ge. 2022 , 120, 201902 | 1 |
| 85 | Indirect control of the 29SiV[huclear spin in diamond. 2022 , 105, | O |
| 84 | The Quantum Circuits Configurations for the Module of Conjugate Coefficients Permutations when Performing QFT. 2022 , | |
| 83 | Quantum embedding methods for correlated excited states of point defects: Case studies and challenges. 2022 , 105, | 3 |
| 82 | Entanglement in a two-qubit Heisenberg XXX model with x-components of DzyaloshinskiiMoriya and KaplanBhekhtmanEntin-WohlmanAharony interactions. 2022 , 21, | O |

| 81 | Intrinsic decoherence effects on nonclassical correlations in a symmetric spin brbit model. 2022 , 39, 105693 | | 0 |
|----|--|------|---|
| 80 | Bias-dependent hole transport through multi-channel silicon nanowire transistor with single-acceptor-induced quantum dots. | | О |
| 79 | Characterizing quantum nonlocalities under the Heisenberg XYZ spin model with DzyaloshinskiiMoriya interaction. 2022 , 19, 085203 | | |
| 78 | Ab-initio calculations of shallow dopant qubits in silicon from pseudopotential and all-electron mixed approach. 2022 , 5, | | О |
| 77 | Optical observation of single spins in silicon. <i>Nature</i> , 2022 , 607, 266-270 | 50.4 | 6 |
| 76 | Simple accurate model of silicon donor arrays. 2022 , 106, | | |
| 75 | Swap Test with Quantum Dot Charge Qubits. 2022 , 18, | | |
| 74 | Quantum error correction in a time-dependent transverse-field Ising model. 2022, 106, | | |
| 73 | Nano Quantum Computing Thin Films Electronic Components to Act as Rectifier and Amplifier in Simulation Theory. 2022 , 169843 | | |
| 72 | Preparation and doping modification of cerium oxide photosensitizers applied to photosensitive glass ceramics. 2022 , 33, 19195-19204 | | |
| 71 | Shelving and latching spin readout in atom qubits in silicon. 2022 , 106, | | 1 |
| 70 | Nuclear spin polarization and control in hexagonal boron nitride. | | 5 |
| 69 | Quantum-Dot Spin Chains. 2022, 505-538 | | О |
| 68 | Excitons. 2022 , 1-63 | | O |
| 67 | Detection of Low-Penetrating lons in Diamond at Room Temperature. 2022, 1-1 | | О |
| 66 | Graphenic nanospace: Bondonic entanglement perspectives. 1-18 | | 1 |
| 65 | Long-range entanglement in quantum dots with Fermi-Hubbard physics. 2022, 106, | | O |
| 64 | Coherent coupling of a metamaterial resonator with hydrogen-like acceptor impurities in Si. 2022, | | O |

| 63 | Pauli spin blockade in a resonant triple quantum dot molecule. 2022 , 132, 064402 | О |
|----------------------------|--|------------------|
| 62 | Multiconfiguration Pair-Density Functional Theory for Chromium(IV) Molecular Qubits. 2022 , 2, 2029-2037 | 1 |
| 61 | Coherent coupling of metamaterial resonators with dipole transitions of boron acceptors in Si. 2022 , 47, 4969 | О |
| 60 | De-carbonization of self-assembled molecular monolayers doping in silicon. 2022 , 12, 095122 | O |
| 59 | Near-Surface Electrical Characterization of Silicon Electronic Devices Using Focused keV-Range Ions. 2022 , 18, | 0 |
| 58 | Implementation of an advanced dressing protocol for global qubit control in silicon. 2022 , 9, 031409 | 1 |
| 57 | Extrinsic spin-valley Hall effect and spin-relaxation anisotropy in magnetized and strained graphene. 2022 , 106, | О |
| 56 | Spin textures and Berry phases for holes confined in SiGe mixed-alloy two-dimensional quantum well systemquantization of Berry phase via intersubband interaction[] | O |
| 55 | Bardeen's tunneling theory applied to intraorbital and interorbital hopping integrals between dopants in silicon. 2022 , 106, | O |
| | | |
| 54 | Quantum Computing in Graphene. 2020 , 5, 165-180 | O |
| 54 | Quantum Computing in Graphene. 2020, 5, 165-180 Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 | 0 |
| | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom | |
| 53 | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 Strong Isotopic Fractionation of Oxygen in TiO2 Obtained by Surface-Enhanced Solid-State | 0 |
| 53 52 | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 Strong Isotopic Fractionation of Oxygen in TiO2 Obtained by Surface-Enhanced Solid-State Diffusion. 2022, 13, 9841-9847 | 0 3 |
| 53 52 51 | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 Strong Isotopic Fractionation of Oxygen in TiO2 Obtained by Surface-Enhanced Solid-State Diffusion. 2022, 13, 9841-9847 Experimental Determination of a Single Atom Ground State Orbital through Hyperfine Anisotropy. | 0 3 |
| 53 52 51 50 | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 Strong Isotopic Fractionation of Oxygen in TiO2 Obtained by Surface-Enhanced Solid-State Diffusion. 2022, 13, 9841-9847 Experimental Determination of a Single Atom Ground State Orbital through Hyperfine Anisotropy. Fast high-fidelity single-qubit gates for flip-flop qubits in silicon. 2022, 106, | 0 3 0 |
| 53 52 51 50 49 | Diamagnetic coefficients and g-factors of InAs/InGaAlAs quantum dashes emitting at telecom wavelengths. 2022, 132, 144301 Strong Isotopic Fractionation of Oxygen in TiO2 Obtained by Surface-Enhanced Solid-State Diffusion. 2022, 13, 9841-9847 Experimental Determination of a Single Atom Ground State Orbital through Hyperfine Anisotropy. Fast high-fidelity single-qubit gates for flip-flop qubits in silicon. 2022, 106, The Use of Exchange Coupled Atom Qubits as Atomic-Scale Magnetic Field Sensors. 2201625 Computational Insights into Electronic Excitations, SpinDrbit Coupling Effects, and Spin | 0 3 0 1 |

| 45 | Electronic structure and terahertz intersubband absorption spectra of phosphorus donor in silicon using a variationally optimized diagonalization method. 2023 , 146, 115535 | O |
|----------------------|--|--------|
| 44 | Nitrogen Donor in Silicon: Towards Room Temperature Operation of Single Electron Tunneling Devices. 2022 , | O |
| 43 | The millimeter-wave spectrum of the SiP radical (X2II): Rotational perturbations and hyperfine structure. 2022 , 157, 184307 | О |
| 42 | Electrical two-qubit gates within a pair of clock-qubit magnetic molecules. 2022, 8, | 1 |
| 41 | Qubits based on merons in magnetic nanodisks. 2022 , 3, | О |
| 40 | Coherent control of electron spin qubits in silicon using a global field. 2022 , 8, | O |
| 39 | Optimisation of electron spin qubits in electrically driven multi-donor quantum dots. 2022, 8, | О |
| 38 | Nanoelectronic Systems for Quantum Computing. 2023 , 1201-1230 | O |
| 37 | Spin-Based Devices for Digital Applications. 2023 , 1123-1166 | О |
| 36 | Remarkable Prospect for Quantum-Dot-Coupled Tin Qubits in Silicon. 2022 , 3, | O |
| 35 | | |
| | 2023 roadmap for materials for quantum technologies. | 1 |
| 34 | 2023 roadmap for materials for quantum technologies. Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in Lanthanide-Based Single Molecule Toroics. 2022, 133-187 | 1 0 |
| | Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in | |
| 34 | Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in Lanthanide-Based Single Molecule Toroics. 2022 , 133-187 An Online Testing Technique for the Detection of Control Nodes Displacement Faults (CNDF) in | O |
| 34 | Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in Lanthanide-Based Single Molecule Toroics. 2022, 133-187 An Online Testing Technique for the Detection of Control Nodes Displacement Faults (CNDF) in Reversible Circuits. 2022, 249-261 Room-temperature polarization of individual nuclear spins in diamond via anisotropic hyperfine | 0 |
| 34 33 32 | Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in Lanthanide-Based Single Molecule Toroics. 2022, 133-187 An Online Testing Technique for the Detection of Control Nodes Displacement Faults (CNDF) in Reversible Circuits. 2022, 249-261 Room-temperature polarization of individual nuclear spins in diamond via anisotropic hyperfine coupling and coherent population trapping. 2022, 76, | 0 0 |
| 34 33 32 31 | Spin-Electric Coupling, Magnetoelectricity, and Quantum Dynamics of Toroidal Moment in Lanthanide-Based Single Molecule Toroics. 2022, 133-187 An Online Testing Technique for the Detection of Control Nodes Displacement Faults (CNDF) in Reversible Circuits. 2022, 249-261 Room-temperature polarization of individual nuclear spins in diamond via anisotropic hyperfine coupling and coherent population trapping. 2022, 76, Single-electron pump in a quantum dot array for silicon quantum computers. | O O O |

| 27 | Inelastic cotunneling in the Coulomb-blockade transport of donor-atom transistors. 2023, 41, 012208 | О |
|----|--|---|
| 26 | Spatially Resolving Electron Spin Resonance of ERadical in Single-molecule Magnet. 2023 , 23, 213-219 | O |
| 25 | Effect of External Pressure and Quantum State on the Local Magnetization of Germanium Layers: Ab Initio Calculation. 2200816 | 0 |
| 24 | Quantum Information. 2023 , 1259-1271 | O |
| 23 | Spin Hyperpolarization in Modern Magnetic Resonance. | 1 |
| 22 | Strain effects in phosphorus bound exciton transitions in silicon. 2023, 7, | O |
| 21 | Design and simulation of a low-energy single ion irradiation system for micro/nano-biosample investigation. 2023 , 2431, 012068 | 0 |
| 20 | Excitons. 2023 , 529-591 | O |
| 19 | SPICE compact model of controlling electrons of spin qubits using FinFET. 2023, 62, SC1065 | 0 |
| 18 | Recent advances in the ab initio theory of solid-state defect qubits. 2023 , 12, 359-397 | 1 |
| 17 | Dynamics of two-qubit quantum nonlocality in a Heisenberg chain model with the intrinsic decoherence. 2023 , 55, | 0 |
| 16 | Universal quantum computer based on carbon nanotube rotators. 2023 , 62, SG0806 | Ο |
| 15 | Witnessing quantum correlations in two coupled quantum dots under intrinsic decoherence. 2023 , 69, 521-527 | Ο |
| 14 | Nitrogen in silicon for room temperature single-electron tunneling devices. 2023 , 122, 083502 | O |
| 13 | High-Fidelity CNOT Gate for Donor Electron Spin Qubits in Silicon. 2023 , 19, | O |
| 12 | Universal Quantum Computation Based on Nanoscale Skyrmion Helicity Qubits in Frustrated Magnets. 2023 , 130, | Ο |
| 11 | Noisy intermediate-scale quantum computers. 2023 , 18, | Ο |
| 10 | Chirping toward a Quantum RAM. 15, | O |

| 9 | Entanglement of the Ising⊞eisenberg diamond spin- 1/2 cluster in evolution. 2023 , 56, 165302 | О |
|---|---|---|
| 8 | Modeling of spin decoherence in a Si hole qubit perturbed by a single charge fluctuator. 2023 , 107, | О |
| 7 | Semiconductors: Isotope effects in solids. 2022, | О |
| 6 | Fundamental Study of MgB2 Superconducting Coil for Storage Devices. 457-461 | O |
| 5 | Global Quantum Discord and Entanglement in two Coupled Double Quantum Dots AlGaAs/GaAs. 2023 , 62, | O |
| 4 | Probing Low-Frequency Charge Noise in Few-Electron CMOS Quantum Dots. 2023 , 19, | O |
| 3 | Acceptor-based qubit in silicon with tunable strain. 2023 , 107, | О |
| 2 | Dispersive cavity-mediated quantum gate between driven dot-donor nuclear spins. 2023, 107, | O |
| 1 | Isotopically Enriched Layers for Quantum Computers Formed by 28Si Implantation and Layer Exchange. | O |