# Harold S Park

## List of Publications by Year in Descending Order



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|---|---|---|---|
| 183 papers | 9,362 citations | 53 h-index | 91 g-index |
| 189 ext. papers | 10,590 ext. citations | 4.9 avg, IF | 6.86 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 183 | Efficient snap-through of spherical caps by applying a localized curvature stimulus.. *European Physical Journal E*, **2022**, 45, 3 | 1.5 | 0 |
| 182 | Enhanced converse flexoelectricity in piezoelectric composites by coupling topology optimization with homogenization. *Journal of Applied Physics*, **2021**, 129, 245104 | 2.5 | 1 |
| 181 | Flexoelectric electricity generation by crumpling graphene. *Journal of Applied Physics*, **2021**, 129, 225107 | 2.5 | 1 |
| 180 | A staggered explicit-implicit isogeometric formulation for large deformation flexoelectricity. *Engineering Analysis With Boundary Elements*, **2021**, 122, 1-12 | 2.6 | 2 |
| 179 | Double Dirac cones and topologically nontrivial phonons for continuous square symmetric C4(v) and C2(v) unit cells. *Physical Review B*, **2021**, 103, | 3.3 | 1 |
| 178 | Topology optimization of flexoelectric composites using computational homogenization. *Computer Methods in Applied Mechanics and Engineering*, **2021**, 381, 113819 | 5.7 | 3 |
| 177 | Elastic Instabilities Govern the Morphogenesis of the Optic Cup. *Physical Review Letters*, **2021**, 127, 138102 | 7.4 | 2 |
| 176 | Atomistic configurational forces in crystalline fracture. *Forces in Mechanics*, **2021**, 4, 100044 | 1.5 | 1 |
| 175 | Graphene Origami with Highly Tunable Coefficient of Thermal Expansion. *ACS Nano*, **2020**, 14, 8969-8974 | 16.7 | 17 |
| 174 | Multiscale computational understanding and growth of 2D materials: a review. *Npj Computational Materials*, **2020**, 6, | 10.9 | 49 |
| 173 | Topologically switchable behavior induced by an elastic instability in a phononic waveguide. *Journal of Applied Physics*, **2020**, 127, 245109 | 2.5 | 5 |
| 172 | Valley-dependent topologically protected elastic waves using continuous graphene membranes on patterned substrates. *Nanoscale*, **2020**, 12, 8997-9004 | 7.7 | 4 |
| 171 | Forward and inverse design of kirigami via supervised autoencoder. *Physical Review Research*, **2020**, 2, | 3.9 | 14 |
| 170 | Three-Dimensional Isogeometric Analysis of Flexoelectricity with MATLAB Implementation. *Computers, Materials and Continua*, **2020**, 65, 1157-1179 | 3.9 | 6 |
| 169 | Mechanics and Electromechanics of Two-Dimensional Atomic Membranes **2020**, 1911-1947 | | |
| 168 | Nonlinear buckling behavior of a complete spherical shell under uniform external pressure and homogenous natural curvature. *Physical Review E*, **2020**, 102, 023003 | 2.4 | 5 |
| 167 | A Computational Framework for Design and Optimization of Flexoelectric Materials. *International Journal of Computational Methods*, **2020**, 17, 1850097 | 1.1 | 10 |

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| 166 | Machine learning-based design of porous graphene with low thermal conductivity. *Carbon*, **2020**, 157, 262-269 | 10.4 | 35 |
| 165 | A NURBS-based inverse analysis of thermal expansion induced morphing of thin shells. *Computer Methods in Applied Mechanics and Engineering*, **2019**, 350, 480-510 | 5.7 | 25 |
| 164 | Tunable topological bandgaps and frequencies in a pre-stressed soft phononic crystal. *Journal of Applied Physics*, **2019**, 125, 095106 | 2.5 | 28 |
| 163 | Intrinsic bending flexoelectric constants in two-dimensional materials. *Physical Review B*, **2019**, 99, | 3.3 | 45 |
| 162 | High flexoelectric constants in Janus transition-metal dichalcogenides. *Physical Review Materials*, **2019**, 3, | 3.2 | 16 |
| 161 | Inverse design of quantum spin hall-based phononic topological insulators. *Journal of the Mechanics and Physics of Solids*, **2019**, 125, 550-571 | 5 | 44 |
| 160 | Strain tunable phononic topological bandgaps in two-dimensional hexagonal boron nitride. *Journal of Applied Physics*, **2019**, 125, 082511 | 2.5 | 5 |
| 159 | Nanomechanics of slip avalanches in amorphous plasticity. *Journal of the Mechanics and Physics of Solids*, **2018**, 114, 158-171 | 5 | 29 |
| 158 | A staggered explicit□implicit finite element formulation for electroactive polymers. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 337, 150-164 | 5.7 | 12 |
| 157 | Irreversible crumpling of graphene from hydrostatic and biaxial compression. *Journal Physics D: Applied Physics*, **2018**, 51, 015302 | 3 | 2 |
| 156 | Atomistic Simulation of the Rate-Dependent Ductile-to-Brittle Failure Transition in Bicrystalline Metal Nanowires. *Nano Letters*, **2018**, 18, 1296-1304 | 11.5 | 21 |
| 155 | Superplastic Creep of Metal Nanowires from Rate-Dependent Plasticity Transition. *ACS Nano*, **2018**, 12, 4984-4992 | 16.7 | 7 |
| 154 | A methodology for modeling surface effects on stiff and soft solids. *Computational Mechanics*, **2018**, 61, 687-697 | 4 | 8 |
| 153 | Topologically protected interface phonons in two-dimensional nanomaterials: hexagonal boron nitride and silicon carbide. *Nanoscale*, **2018**, 10, 13913-13923 | 7.7 | 20 |
| 152 | Intrinsic rippling enhances static non-reciprocity in a graphene metamaterial. *Nanoscale*, **2018**, 10, 1207-1214 | 7.7 | 2 |
| 151 | A multi-material level set-based topology optimization of flexoelectric composites. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 332, 47-62 | 5.7 | 159 |
| 150 | A NURBS-based inverse analysis for reconstruction of nonlinear deformations of thin shell structures. *Computer Methods in Applied Mechanics and Engineering*, **2018**, 331, 427-455 | 5.7 | 88 |
| 149 | Accelerated Search and Design of Stretchable Graphene Kirigami Using Machine Learning. *Physical Review Letters*, **2018**, 121, 255304 | 7.4 | 66 |

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| 148 | Mechanics and Electromechanics of Two-Dimensional Atomic Membranes **2018**, 1-37 | | |
| 147 | Strain-induced gauge and Rashba fields in ferroelectric Rashba lead chalcogenide PbX monolayers (X=S, Se, Te). *Physical Review B*, **2018**, 97, | 3.3 | 13 |
| 146 | A review on mechanics and mechanical properties of 2D materials–Graphene and beyond. *Extreme Mechanics Letters*, **2017**, 13, 42-77 | 3.9 | 581 |
| 145 | Negative Poisson's ratio in graphene oxide. *Nanoscale*, **2017**, 9, 4007-4012 | 7.7 | 38 |
| 144 | Mechanical properties of copper octet-truss nanolattices. *Journal of the Mechanics and Physics of Solids*, **2017**, 101, 133-149 | 5 | 34 |
| 143 | A perspective on auxetic nanomaterials. *Nano Convergence*, **2017**, 4, 10 | 9.2 | 21 |
| 142 | Topology optimization of flexoelectric structures. *Journal of the Mechanics and Physics of Solids*, **2017**, 105, 217-234 | 5 | 71 |
| 141 | Electro-elastocapillary Rayleigh-plateau instability in dielectric elastomer films. *Soft Matter*, **2017**, 13, 4305-4310 | 3.6 | 11 |
| 140 | Nanomechanical probing of thin-film dielectric elastomer transducers. *Applied Physics Letters*, **2017**, 111, 093104 | 3.4 | 4 |
| 139 | Two-dimensional square buckled Rashba lead chalcogenides. *Physical Review B*, **2017**, 96, | 3.3 | 22 |
| 138 | Rashba-like dispersion in buckled square lattices. *Physical Review B*, **2017**, 96, | 3.3 | 2 |
| 137 | Kirigami actuators. *Soft Matter*, **2017**, 13, 9087-9092 | 3.6 | 63 |
| 136 | Negative In-Plane Poisson's Ratio for Single Layer Black Phosphorus: An Atomistic Simulation Study. *Physica Status Solidi (B): Basic Research*, **2017**, 254, 1700285 | 1.3 | 11 |
| 135 | Metal nanoplates: Smaller is weaker due to failure by elastic instability. *Physical Review B*, **2017**, 96, | 3.3 | 6 |
| 134 | Negative Thermal Expansion of Ultrathin Metal Nanowires: A Computational Study. *Nano Letters*, **2017**, 17, 5113-5118 | 11.5 | 20 |
| 133 | A level-set based IGA formulation for topology optimization of flexoelectric materials. *Computer Methods in Applied Mechanics and Engineering*, **2017**, 313, 239-258 | 5.7 | 208 |
| 132 | Self-cleaning by harnessing wrinkles in two-dimensional layered crystals. *Nanoscale*, **2017**, 10, 312-318 | 7.7 | 4 |
| 131 | Graphene kirigami as a platform for stretchable and tunable quantum dot arrays. *Physical Review B*, **2016**, 93, | 3.3 | 19 |

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| 130 | Intrinsic Negative Poisson's Ratio for Single-Layer Graphene. *Nano Letters*, **2016**, 16, 5286-90 | 11.5 | 77 |
| 129 | Interlayer breathing and shear modes in few-layer black phosphorus. *Journal of Physics Condensed Matter*, **2016**, 28, 165401 | 1.8 | 8 |
| 128 | Atomistic modeling at experimental strain rates and timescales. *Journal Physics D: Applied Physics*, **2016**, 49, 493002 | 3 | 15 |
| 127 | Topology optimization of piezoelectric nanostructures. *Journal of the Mechanics and Physics of Solids*, **2016**, 94, 316-335 | 5 | 61 |
| 126 | Mechanical strain effects on black phosphorus nanoresonators. *Nanoscale*, **2016**, 8, 901-5 | 7.7 | 24 |
| 125 | Negative Poisson's Ratio in Single-Layer Graphene Ribbons. *Nano Letters*, **2016**, 16, 2657-62 | 11.5 | 90 |
| 124 | Force-dependent mechanical unfolding pathways of GFP. *Extreme Mechanics Letters*, **2016**, 8, 251-256 | 3.9 | 2 |
| 123 | Highly stretchable MoS2 kirigami. *Nanoscale*, **2016**, 8, 458-63 | 7.7 | 54 |
| 122 | Coarse-grained model of the J-integral of carbon nanotube reinforced polymer composites. *Carbon* , **2016**, 96, 1084-1092 | 10.4 | 33 |
| 121 | Self-assembly of water molecules using graphene nanoresonators. *RSC Advances*, **2016**, 6, 110466-110470 | 3.7 | 5 |
| 120 | Auxetic nanomaterials: Recent progress and future development. *Applied Physics Reviews*, **2016**, 3, 041101 | 17.3 | 71 |
| 119 | The effect of structural heterogeneity on the conformation and stability of Aβ42 mixtures. *RSC Advances*, **2016**, 6, 52236-52247 | 3.7 | 11 |
| 118 | Computational modeling of electro-elasto-capillary phenomena in dielectric elastomers. *International Journal of Solids and Structures*, **2016**, 87, 236-244 | 3.1 | 17 |
| 117 | The effects of free edge interaction-induced knotting on the buckling of monolayer graphene. *International Journal of Solids and Structures*, **2016**, 100-101, 446-455 | 3.1 | 7 |
| 116 | Polarization and valley switching in monolayer group-IV monochalcogenides. *Physical Review B*, **2016**, 94, | 3.3 | 107 |
| 115 | A Stillinger-Weber potential for single-layered black phosphorus, and the importance of cross-pucker interactions for a negative Poisson's ratio and edge stress-induced bending. *Nanoscale* , **2015**, 7, 6059-68 | 7.7 | 69 |
| 114 | Surface plasmon resonance-induced stiffening of silver nanowires. *Scientific Reports*, **2015**, 5, 10574 | 4.9 | 2 |
| 113 | Mechanical properties of carbon nanotube reinforced polymer nanocomposites: A coarse-grained model. *Composites Part B: Engineering*, **2015**, 80, 92-100 | 10 | 55 |

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| 112 | Cofilin reduces the mechanical properties of actin filaments: approach with coarse-grained methods. *Physical Chemistry Chemical Physics*, **2015**, 17, 8148-58 | 3.6 | 11 |
| 111 | A Gaussian treatment for the friction issue of Lennard-Jones potential in layered materials: Application to friction between graphene, MoS2, and black phosphorus. *Journal of Applied Physics*, **2015**, 117, 124304 | 2.5 | 46 |
| 110 | Conductance signatures of electron confinement induced by strained nanobubbles in graphene. *Nanoscale*, **2015**, 7, 15300-9 | 7.7 | 31 |
| 109 | Tensile fracture behavior of short carbon nanotube reinforced polymer composites: A coarse-grained model. *Composite Structures*, **2015**, 134, 981-988 | 5.3 | 48 |
| 108 | Analytic study of strain engineering of the electronic bandgap in single-layer black phosphorus. *Physical Review B*, **2015**, 91, | 3.3 | 54 |
| 107 | □sheet-like formation during the mechanical unfolding of prion protein. *Journal of Chemical Physics*, **2015**, 143, 125101 | 3.9 | 13 |
| 106 | The role of binding site on the mechanical unfolding mechanism of ubiquitin. *Scientific Reports*, **2015**, 5, 8757 | 4.9 | 7 |
| 105 | Surface effects on shape and topology optimization of nanostructures. *Computational Mechanics*, **2015**, 56, 97-112 | 4 | 46 |
| 104 | The molecular mechanism of conformational changes of the triplet prion fibrils for pH. *RSC Advances*, **2015**, 5, 49263-49269 | 3.7 | 12 |
| 103 | Coupling tension and shear for highly sensitive graphene-based strain sensors. *2D Materials*, **2015**, 2, 035002 | 5.9 | 1 |
| 102 | The Temperature-Dependent Viscoelastic Behavior of Dielectric Elastomers. *Journal of Applied Mechanics, Transactions ASME*, **2015**, 82, | 2.7 | 22 |
| 101 | A review on the flexural mode of graphene: lattice dynamics, thermal conduction, thermal expansion, elasticity and nanomechanical resonance. *Journal of Physics Condensed Matter*, **2015**, 27, 083001 | 1.8 | 55 |
| 100 | MoS2 nanoresonators: intrinsically better than graphene?. *Nanoscale*, **2014**, 6, 3618-25 | 7.7 | 59 |
| 99 | Atomistic simulations of electric field effects on the Young□s modulus of metal nanowires. *Nanotechnology*, **2014**, 25, 455704 | 3.4 | 19 |
| 98 | Mechanical properties of single-layer black phosphorus. *Journal Physics D: Applied Physics*, **2014**, 47, 385304 | 3 | 157 |
| 97 | Negative poisson□s ratio in single-layer black phosphorus. *Nature Communications*, **2014**, 5, 4727 | 17.4 | 478 |
| 96 | Mechanical properties of MoS2/graphene heterostructures. *Applied Physics Letters*, **2014**, 105, 033108 | 3.4 | 102 |
| 95 | Pseudomagnetic fields in graphene nanobubbles of constrained geometry: A molecular dynamics study. *Physical Review B*, **2014**, 90, | 3.3 | 44 |

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| 94 | Strain-rate and temperature dependence of yield stress of amorphous solids via a self-learning metabasin escape algorithm. *Journal of the Mechanics and Physics of Solids*, **2014**, 68, 239-250 | 5 | 26 |
| 93 | Electrostatically Driven Creep in Viscoelastic Dielectric Elastomers. *Journal of Applied Mechanics, Transactions ASME*, **2014**, 81, | 2.7 | 16 |
| 92 | Atomistic simulations of tension-induced large deformation and stretchability in graphene kirigami. *Physical Review B*, **2014**, 90, | 3.3 | 87 |
| 91 | Adsorbate migration effects on continuous and discontinuous temperature-dependent transitions in the quality factors of graphene nanoresonators. *Nanotechnology*, **2014**, 25, 025501 | 3.4 | 10 |
| 90 | Fermi-Pasta-Ulam physics with nanomechanical graphene resonators: intrinsic relaxation and thermalization from flexural mode coupling. *Physical Review Letters*, **2014**, 112, 145503 | 7.4 | 29 |
| 89 | Surface shear-transformation zones in amorphous solids. *Physical Review E*, **2014**, 90, 012311 | 2.4 | 11 |
| 88 | Density functional theory calculation of edge stresses in monolayer MoS2. *Journal of Applied Physics*, **2013**, 114, 163508 | 2.5 | 16 |
| 87 | Elastic bending modulus of single-layer molybdenum disulfide (MoS2): finite thickness effect. *Nanotechnology*, **2013**, 24, 435705 | 3.4 | 109 |
| 86 | A surface stacking fault energy approach to predicting defect nucleation in surface-dominated nanostructures. *Journal of the Mechanics and Physics of Solids*, **2013**, 61, 1915-1934 | 5 | 27 |
| 85 | Strain-rate and temperature-driven transition in the shear transformation zone for two-dimensional amorphous solids. *Physical Review E*, **2013**, 88, 042404 | 2.4 | 28 |
| 84 | Origin of size dependency in coherent-twin-propagation-mediated tensile deformation of noble metal nanowires. *Nano Letters*, **2013**, 13, 5112-6 | 11.5 | 74 |
| 83 | Molecular dynamics simulations of single-layer molybdenum disulphide (MoS2): Stillinger-Weber parametrization, mechanical properties, and thermal conductivity. *Journal of Applied Physics*, **2013**, 114, 064307 | 2.5 | 263 |
| 82 | Polar surface effects on the thermal conductivity of ZnO nanowires: a shell-like surface reconstruction-induced preserving mechanism. *Nanoscale*, **2013**, 5, 11035-43 | 7.7 | 7 |
| 81 | Viscoelastic effects on electromechanical instabilities in dielectric elastomers. *Soft Matter*, **2013**, 9, 1031-1042 | 3.8 | 67 |
| 80 | Surface effects on the piezoelectricity of ZnO nanowires. *Journal of the Mechanics and Physics of Solids*, **2013**, 61, 385-397 | 5 | 44 |
| 79 | Computational Modeling of Surface Effects: Distinctions from Classical Surface Elasticity Theory **2013**, 171-177 | | |
| 78 | An analysis of the boundary layer in the 1D surface Cauchy-Born model. *ESAIM: Mathematical Modelling and Numerical Analysis*, **2013**, 47, 109-123 | 1.8 | 2 |
| 77 | Electromechanical instability on dielectric polymer surface: Modeling and experiment. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 260, 40-49 | 5.7 | 33 |

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| 76 | How graphene slides: measurement and theory of strain-dependent frictional forces between graphene and SiO2. *Nano Letters*, **2013**, 13, 2605-10 | 11.5 | 82 |
| 75 | The Effect of Planar Defects on the Optical Properties of Silver Nanostructures. *Journal of Physical Chemistry C*, **2013**, 117, 13738-13746 | 3.8 | 5 |
| 74 | Resonant tunneling in graphene pseudomagnetic quantum dots. *Nano Letters*, **2013**, 13, 2692-7 | 11.5 | 45 |
| 73 | Preserving the Q-factors of ZnO nanoresonators via polar surface reconstruction. *Nanotechnology*, **2013**, 24, 405705 | 3.4 | 2 |
| 72 | Defecting controllability of bombarding graphene with different energetic atoms via reactive force field model. *Journal of Applied Physics*, **2013**, 114, 054313 | 2.5 | 23 |
| 71 | A harmonic transition state theory model for defect initiation in crystals. *Modelling and Simulation in Materials Science and Engineering*, **2013**, 21, 025010 | 2 | 6 |
| 70 | Strain engineering enhancement of surface plasmon polariton propagation lengths for gold nanowires. *Applied Physics Letters*, **2013**, 102, 041909 | 3.4 | 8 |
| 69 | A dynamic finite element method for inhomogeneous deformation and electromechanical instability of dielectric elastomer transducers. *International Journal of Solids and Structures*, **2012**, 49, 2187-2194 | 3.1 | 75 |
| 68 | Beat phenomena in metal nanowires, and their implications for resonance-based elastic property measurements. *Nanoscale*, **2012**, 4, 6779-85 | 7.7 | 28 |
| 67 | Intrinsic energy dissipation in CVD-grown graphene nanoresonators. *Nanoscale*, **2012**, 4, 3460-5 | 7.7 | 26 |
| 66 | Size-Dependent Validity Bounds on the Universal Plasmon Ruler for Metal Nanostructure Dimers. *Journal of Physical Chemistry C*, **2012**, 116, 18944-18951 | 3.8 | 14 |
| 65 | Surface stress effects on the critical buckling strains of silicon nanowires. *Computational Materials Science*, **2012**, 51, 396-401 | 3.2 | 49 |
| 64 | On the importance of surface elastic contributions to the flexural rigidity of nanowires. *Journal of the Mechanics and Physics of Solids*, **2012**, 60, 2064-2083 | 5 | 46 |
| 63 | Bridging the gap between experimental measurements and atomistic predictions of the elastic properties of silicon nanowires using multiscale modeling. *Finite Elements in Analysis and Design*, **2012**, 49, 3-12 | 2.2 | 9 |
| 62 | Self-learning metabasin escape algorithm for supercooled liquids. *Physical Review E*, **2012**, 86, 016710 | 2.4 | 25 |
| 61 | Enhancing the mass sensitivity of graphene nanoresonators via nonlinear oscillations: the effective strain mechanism. *Nanotechnology*, **2012**, 23, 475501 | 3.4 | 32 |
| 60 | On the effective plate thickness of monolayer graphene from flexural wave propagation. *Journal of Applied Physics*, **2011**, 110, 054324 | 2.5 | 21 |
| 59 | Nonlocal instability analysis of FCC bulk and (1 0 0) surfaces under uniaxial stretching. *International Journal of Solids and Structures*, **2011**, 48, 3406-3416 | 3.1 | 4 |

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| 58 | A continuum model for the mechanical behavior of nanowires including surface and surface-induced initial stresses. *International Journal of Solids and Structures*, **2011**, 48, 2154-2163 | 3.1 | 95 |
| 57 | Size Dependence of the Plasmon Ruler Equation for Two-Dimensional Metal Nanosphere Arrays. *Journal of Physical Chemistry C*, **2011**, 115, 15915-15926 | 3.8 | 50 |
| 56 | Superplastic deformation of defect-free Au nanowires via coherent twin propagation. *Nano Letters*, **2011**, 11, 3499-502 | 11.5 | 159 |
| 55 | A new multiscale formulation for the electromechanical behavior of nanomaterials. *Computer Methods in Applied Mechanics and Engineering*, **2011**, 200, 2447-2457 | 5.7 | 15 |
| 54 | Atomistic study of the buckling of gold nanowires. *Acta Materialia*, **2011**, 59, 3883-3894 | 8.4 | 22 |
| 53 | Nanomechanical resonators and their applications in biological/chemical detection: Nanomechanics principles. *Physics Reports*, **2011**, 503, 115-163 | 27.7 | 335 |
| 52 | Surface piezoelectricity: Size effects in nanostructures and the emergence of piezoelectricity in non-piezoelectric materials. *Journal of Applied Physics*, **2011**, 110, 104305 | 2.5 | 100 |
| 51 | Size Dependence of the Nonlinear Elastic Softening of Nanoscale Graphene Monolayers under Plane-Strain Bulge Tests: A Molecular Dynamics Study. *Journal of Nanomaterials*, **2011**, 2011, 1-6 | 3.2 | 7 |
| 50 | Strain effects on the SERS enhancements for spherical silver nanoparticles. *Nanotechnology*, **2010**, 21, 365704 | 3.4 | 17 |
| 49 | Surface-Stress-Driven Lattice Contraction Effects on the Extinction Spectra of Ultrasmall Silver Nanowires. *Journal of Physical Chemistry C*, **2010**, 114, 8741-8748 | 3.8 | 15 |
| 48 | A molecular simulation analysis of producing monatomic carbon chains by stretching ultranarrow graphene nanoribbons. *Nanotechnology*, **2010**, 21, 265702 | 3.4 | 25 |
| 47 | Piezoelectric constants for ZnO calculated using classical polarizable core-shell potentials. *Nanotechnology*, **2010**, 21, 445707 | 3.4 | 36 |
| 46 | On the utility of vacancies and tensile strain-induced quality factor enhancement for mass sensing using graphene monolayers. *Nanotechnology*, **2010**, 21, 105710 | 3.4 | 26 |
| 45 | The Influence of shearing and rotary inertia on the resonant properties of gold nanowires. *Journal of Applied Physics*, **2010**, 108, 104312 | 2.5 | 18 |
| 44 | A multiscale finite element method for the dynamic analysis of surface-dominated nanomaterials. *International Journal for Numerical Methods in Engineering*, **2010**, 83, 1237-1254 | 2.4 | 5 |
| 43 | An extended finite element/level set method to study surface effects on the mechanical behavior and properties of nanomaterials. *International Journal for Numerical Methods in Engineering*, **2010**, 84, 1466-1489 | 2.4 | 53 |
| 42 | The influence of mechanical strain on the optical properties of spherical gold nanoparticles. *Journal of the Mechanics and Physics of Solids*, **2010**, 58, 330-345 | 5 | 40 |
| 41 | Multiscale Modeling of Surface Effects on the Mechanical Behavior and Properties of Nanowires. *Challenges and Advances in Computational Chemistry and Physics*, **2010**, 193-229 | 0.7 | |

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|---|---|---|---|
| 40 | Multilayer friction and attachment effects on energy dissipation in graphene nanoresonators. *Applied Physics Letters*, **2009**, 94, 101918 | 3.4 | 41 |
| 39 | Quantifying the size-dependent effect of the residual surface stress on the resonant frequencies of silicon nanowires if finite deformation kinematics are considered. *Nanotechnology*, **2009**, 20, 115701 | 3.4 | 54 |
| 38 | ACTION-DERIVED AB INITIO MOLECULAR DYNAMICS. *International Journal of Applied Mechanics*, **2009**, 01, 469-482 | 2.4 | 4 |
| 37 | Mechanics of Crystalline Nanowires. *MRS Bulletin*, **2009**, 34, 178-183 | 3.2 | 144 |
| 36 | Surface stress effects on the bending properties of fcc metal nanowires. *Physical Review B*, **2009**, 79, | 3.3 | 62 |
| 35 | The importance of edge effects on the intrinsic loss mechanisms of graphene nanoresonators. *Nano Letters*, **2009**, 9, 969-74 | 11.5 | 83 |
| 34 | Surface stress effects on the resonant properties of silicon nanowires. *Journal of Applied Physics*, **2008**, 103, 123504 | 2.5 | 66 |
| 33 | Strain sensing through the resonant properties of deformed metal nanowires. *Journal of Applied Physics*, **2008**, 104, 013516 | 2.5 | 13 |
| 32 | Surface stress effects on the resonant properties of metal nanowires: The importance of finite deformation kinematics and the impact of the residual surface stress. *Journal of the Mechanics and Physics of Solids*, **2008**, 56, 3144-3166 | 5 | 141 |
| 31 | A Surface Cauchy-Born model for silicon nanostructures. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3249-3260 | 5.7 | 63 |
| 30 | A finite element formulation for nanoscale resonant mass sensing using the surface CauchyBorn model. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3324-3336 | 5.7 | 12 |
| 29 | A multiscale, finite deformation formulation for surface stress effects on the coupled thermomechanical behavior of nanomaterials. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 3337-3350 | 5.7 | 35 |
| 28 | Utilizing mechanical strain to mitigate the intrinsic loss mechanisms in oscillating metal nanowires. *Physical Review Letters*, **2008**, 101, 215502 | 7.4 | 39 |
| 27 | Surface composition effects on martensitic phase transformations in nickel aluminium nanowires. *Philosophical Magazine*, **2007**, 87, 2159-2168 | 1.6 | 5 |
| 26 | The coupled effects of geometry and surface orientation on the mechanical properties of metal nanowires. *Nanotechnology*, **2007**, 18, 305704 | 3.4 | 44 |
| 25 | Characterizing the elasticity of hollow metal nanowires. *Nanotechnology*, **2007**, 18, 115707 | 3.4 | 25 |
| 24 | A phonon heat bath approach for the atomistic and multiscale simulation of solids. *International Journal for Numerical Methods in Engineering*, **2007**, 70, 351-378 | 2.4 | 55 |
| 23 | Implementation aspects of the bridging scale method and application to intersonic crack propagation. *International Journal for Numerical Methods in Engineering*, **2007**, 71, 583-605 | 2.4 | 24 |

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| 22 | Surface Cauchy-Born analysis of surface stress effects on metallic nanowires. *Physical Review B*, **2007**, 75, | 3.3 | 108 |
| 21 | Molecular dynamics simulations of stretched gold nanowires: the relative utility of different semiempirical potentials. *Journal of Chemical Physics*, **2007**, 126, 144707 | 3.9 | 53 |
| 20 | The Effect of Defects on the Mechanical Behavior of Silver Shape Memory Nanowires. *Journal of Computational and Theoretical Nanoscience*, **2007**, 4, 578-587 | 0.3 | 3 |
| 19 | Stable nanobridge formation in <110> gold nanowires under tensile deformation. *Scripta Materialia* , **2006**, 54, 1127-1132 | 5.6 | 38 |
| 18 | A surface Cauchy**B**orn model for nanoscale materials. *International Journal for Numerical Methods in Engineering*, **2006**, 68, 1072-1095 | 2.4 | 130 |
| 17 | Geometric effects on the inelastic deformation of metal nanowires. *Applied Physics Letters*, **2006**, 89, 181916 | 3.4 | 44 |
| 16 | Multiscale boundary conditions in crystalline solids: Theory and application to nanoindentation. *International Journal of Solids and Structures*, **2006**, 43, 6359-6379 | 3.1 | 27 |
| 15 | On the thermomechanical deformation of silver shape memory nanowires. *Acta Materialia*, **2006**, 54, 2645-2654 | 8.4 | 79 |
| 14 | Bridging scale methods for nanomechanics and materials. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 1407-1421 | 5.7 | 113 |
| 13 | Deformation of FCC nanowires by twinning and slip. *Journal of the Mechanics and Physics of Solids*, **2006**, 54, 1862-1881 | 5 | 259 |
| 12 | Stress-Induced Martensitic Phase Transformation in Intermetallic Nickel Aluminum Nanowires. *Nano Letters*, **2006**, 6, 958-962 | 11.5 | 92 |
| 11 | **2006**, | | 123 |
| 10 | The bridging scale for two-dimensional atomistic/continuum coupling. *Philosophical Magazine*, **2005** , 85, 79-113 | 1.6 | 137 |
| 9 | Modeling inelasticity and failure in gold nanowires. *Physical Review B*, **2005**, 72, | 3.3 | 202 |
| 8 | Three-dimensional bridging scale analysis of dynamic fracture. *Journal of Computational Physics*, **2005**, 207, 588-609 | 4.1 | 84 |
| 7 | Shape memory and pseudoelasticity in metal nanowires. *Physical Review Letters*, **2005**, 95, 255504 | 7.4 | 257 |
| 6 | Non-reflecting boundary conditions for atomistic, continuum and coupled atomistic/continuum simulations. *International Journal for Numerical Methods in Engineering*, **2005**, 64, 237-259 | 2.4 | 40 |
| 5 | An introduction to computational nanomechanics and materials. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 1529-1578 | 5.7 | 307 |

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| 4 | A temperature equation for coupled atomistic/continuum simulations. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 1713-1732 | 5.7 | 46 |
| 3 | An introduction and tutorial on multiple-scale analysis in solids. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 1733-1772 | 5.7 | 135 |
| 2 | Moving particle finite element method. *International Journal for Numerical Methods in Engineering*, **2002**, 53, 1937-1958 | 2.4 | 29 |
| 1 | Multiscale, Multiphysics Modeling of Electromechanical Coupling in Surface-Dominated Nanostructures | 77-98 | 1 |