

Chuan Seng Tan

List of Publications by Year in Descending Order

Source: <https://exaly.com/author-pdf/7779703/chuan-seng-tan-publications-by-year.pdf>

Version: 2024-04-19

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

267
papers

2,808
citations

26
h-index

40
g-index

339
ext. papers

3,526
ext. citations

2.9
avg, IF

5.33
L-index

#	Paper	IF	Citations
267	Grating and hole-array enhanced germanium lateral p-i-n photodetectors on an insulator platform.. <i>Optics Express</i> , 2022 , 30, 4706-4717	3.3	0
266	High-Performance Back-Illuminated Ge _{0.92} Sn _{0.08} /Ge Multiple-Quantum-Well Photodetector on Si Platform For SWIR Detection. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2022 , 28, 1-9	3.8	6
265	Metal-semiconductor-metal Photodetectors on a GeSn-on-insulator Platform for 2 m Applications. <i>IEEE Photonics Journal</i> , 2022 , 1-1	1.8	2
264	In _{0.3} Ga _{0.7} As heterojunction bipolar transistor grown on GeSi substrate for high-frequency application. <i>Materials Science in Semiconductor Processing</i> , 2022 , 146, 106663	4.3	
263	Transferable single-layer GeSn nanomembrane resonant-cavity-enhanced photodetectors for 2 μ m band optical communication and multi-spectral short-wave infrared sensing.. <i>Nanoscale</i> , 2022 , 14, 7341-7349	7.7	2
262	Direct bandgap GeSn nanowires enabled with ultrahigh tension from harnessing intrinsic compressive strain. <i>Applied Physics Letters</i> , 2022 , 120, 202103	3.4	
261	Advanced 3D Integration Technologies in Various Quantum Computing Devices. <i>IEEE Open Journal of Nanotechnology</i> , 2021 , 1-1	2.1	0
260	Suspended germanium membranes photodetector with tunable biaxial tensile strain and location-determined wavelength-selective photoresponsivity. <i>Applied Physics Letters</i> , 2021 , 119, 191106	3.4	1
259	1D photonic crystal direct bandgap GeSn-on-insulator laser. <i>Applied Physics Letters</i> , 2021 , 119, 201101	3.4	7
258	Surface plasmon enhanced GeSn photodetectors operating at 2 μ m. <i>Optics Express</i> , 2021 , 29, 8498-8509	3.3	7
257	TSV-integrated surface electrode ion trap for scalable quantum information processing. <i>Applied Physics Letters</i> , 2021 , 118, 124003	3.4	4
256	High Performance Flexible Visible-Blind Ultraviolet Photodetectors with Two-Dimensional Electron Gas Based on Unconventional Release Strategy. <i>ACS Nano</i> , 2021 , 15, 8386-8396	16.7	13
255	Corner-Promoted Focus Enhancement of Light in Conical Holes for Extraordinary Optical Transmission. <i>IEEE Sensors Journal</i> , 2021 , 21, 9081-9089	4	0
254	Sub-mA/cm ² Dark Current Density, Buffer-Less Germanium (Ge) Photodiodes on a 200-mm Ge-on-Insulator Substrate. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 1730-1737	2.9	4
253	Biaxially strained germanium crossbeam with a high-quality optical cavity for on-chip laser applications. <i>Optics Express</i> , 2021 , 29, 14174-14181	3.3	2
252	Monolithic Germanium-Tin Pedestal Waveguide for Mid-Infrared Applications. <i>IEEE Photonics Journal</i> , 2021 , 13, 1-11	1.8	
251	High-Sensitivity and Mechanically Compliant Flexible Ge Photodetectors with a Vertical p μ n Configuration. <i>ACS Applied Electronic Materials</i> , 2021 , 3, 1780-1786	4	1

250	Gourd-shaped hole array germanium (Ge)-on-insulator photodiodes with improved responsivity and specific detectivity at 1,550 nm. <i>Optics Express</i> , 2021 , 29, 16520-16533	3.3	3
249	Large-Scale Fabrication of Surface Ion Traps on a 300 mm Glass Wafer. <i>Physica Status Solidi (B): Basic Research</i> , 2021 , 258, 2000589	1.3	2
248	Structural Integrity of 3-D Metal-Insulator-Metal Capacitor Embedded in Fully Filled Cu Through-Silicon via. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021 , 11, 918-921	1.7	2
247	Corrections to Structural Integrity of 3-D Metal-Insulator-Metal Capacitor Embedded in Fully Filled Cu Through-Silicon Via. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021 , 11, 1148-1148	1.7	
246	. <i>IEEE Sensors Journal</i> , 2021 , 1-1	4	3
245	A highly ordered and damage-free Ge inverted pyramid array structure for broadband antireflection in the mid-infrared. <i>Journal of Materials Chemistry C</i> , 2021 , 9, 9884-9891	7.1	4
244	RF Performance Benchmarking of TSV Integrated Surface Electrode Ion Trap for Quantum Computing. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2021 , 1-1	1.7	0
243	Low-power and high-detectivity Ge photodiodes by in-situ heavy As doping during Ge-on-Si seed layer growth. <i>Optics Express</i> , 2021 , 29, 2940-2952	3.3	7
242	A review of silicon-based wafer bonding processes, an approach to realize the monolithic integration of Si-CMOS and III-V-on-Si wafers. <i>Journal of Semiconductors</i> , 2021 , 42, 023106	2.3	9
241	GeSn-on-insulator dual-waveband resonant-cavity-enhanced photodetectors at the 2 μm and 1.55 μm optical communication bands. <i>Optics Letters</i> , 2021 , 46, 3809-3812	3	4
240	Design and Fabrication of Grating Couplers for the Optical Addressing of Trapped Ions. <i>IEEE Photonics Journal</i> , 2021 , 13, 1-6	1.8	0
239	Effects of high-temperature thermal annealing on GeSn thin-film material and photodetector operating at 2 μm . <i>Journal of Alloys and Compounds</i> , 2021 , 872, 159696	5.7	1
238	Highly Tensile-Strained Self-Assembled Ge Quantum Dots on InP Substrates for Integrated Light Sources. <i>ACS Applied Nano Materials</i> , 2021 , 4, 897-906	5.6	4
237	Band Structure of Strained $\text{Ge}_{1-x}\text{Sn}_x$ Alloy: A Full-Zone 30-Band $k \cdot p$ Model. <i>IEEE Journal of Quantum Electronics</i> , 2020 , 56, 1-8	2	1
236	Dark current analysis of germanium-on-insulator vertical p-i-n photodetectors with varying threading dislocation density. <i>Journal of Applied Physics</i> , 2020 , 127, 203105	2.5	20
235	Design and Development of Single-Qubit Ion Trap on Glass and Si Substrates With RF Analysis and Performance Benchmarking. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2020 , 10, 1221-1231	1.7	3
234	Heat transfer suppression by suspended droplets on microstructured surfaces. <i>Applied Physics Letters</i> , 2020 , 116, 233703	3.4	8
233	Highly Compact Linear Variable Filter in the Mid Infrared Region for Acetone Level Monitoring. <i>IEEE Sensors Journal</i> , 2020 , 20, 4171-4178	4	1

232	High-Frequency Characteristics of InGaP/GaAs Double Heterojunction Bipolar Transistor Epitaxially Grown on 200 mm Ge/Si Wafers. <i>IEEE Journal of the Electron Devices Society</i> , 2020 , 8, 122-125	2.3	0
231	Effects of precursors purity on graphene quality: Synthesis and thermoelectric effect. <i>AIP Advances</i> , 2020 , 10, 045016	1.5	1
230	Growth and Characterizations of GeSn Films with High Sn Composition by Chemical Vapor Deposition (CVD) Using Ge ₂ H ₆ and SnCl ₄ for Mid-IR Applications. <i>ECS Transactions</i> , 2020 , 98, 91-98	1	5
229	High-efficiency GeSn/Ge multiple-quantum-well photodetectors with photon-trapping microstructures operating at 2 μm. <i>Optics Express</i> , 2020 , 28, 10280-10293	3.3	39
228	Resonant-cavity-enhanced responsivity in germanium-on-insulator photodetectors. <i>Optics Express</i> , 2020 , 28, 23739-23747	3.3	10
227	High speed and ultra-low dark current Ge vertical p-i-n photodetectors on an oxygen-annealed Ge-on-insulator platform with GeO surface passivation. <i>Optics Express</i> , 2020 , 28, 23978-23990	3.3	13
226	Photo detection and modulation from 1,550 to 2,000 nm realized by a GeSn/Ge multiple-quantum-well photodiode on a 300-mm Si substrate. <i>Optics Express</i> , 2020 , 28, 34772-34786	3.3	12
225	Ge-on-insulator lateral p-i-n waveguide photodetectors for optical communication. <i>Optics Letters</i> , 2020 , 45, 6683-6686	3	2
224	Improved thin film quality and photoluminescence of N-doped epitaxial germanium-on-silicon using MOCVD. <i>Optical Materials Express</i> , 2020 , 10, 1	2.6	1
223	Ar/N ₂ Plasma Induced Metastable Cu _x N _y for Cu-Cu Direct Bonding. <i>ECS Transactions</i> , 2020 , 98, 203-210	1	2
222	Performance Comparison of High Resistivity Silicon, Silicon with Grounding Plane and Glass as Substrate of Ion Trap for Quantum Information Processing 2020 ,		1
221	Theoretical design of mid-infrared interband cascade lasers in SiGeSn system. <i>New Journal of Physics</i> , 2020 , 22, 083061	2.9	1
220	Glass Substrate Interposer for TSV-integrated Surface Electrode Ion Trap 2020 ,		2
219	EO Integration of Planar Ion Trap and Silicon Photonics for Optical Addressing in Quantum Computing 2020 ,		1
218	. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2020 , 10, 679-685	1.7	2
217	The effects of strain and composition on the conduction-band offset of direct band gap type-I GeSn/GeSnSi quantum dots for CMOS compatible mid-IR light source. <i>Semiconductor Science and Technology</i> , 2020 , 35, 025008	1.8	2
216	Condition Monitoring of DC-Link Capacitors Using Goertzel Algorithm for Failure Precursor Parameter and Temperature Estimation. <i>IEEE Transactions on Power Electronics</i> , 2020 , 35, 6386-6396	7.2	26
215	Modulation of light absorption in flexible GeSn metal-semiconductor-metal photodetectors by mechanical bending. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 13557-13562	7.1	13

214	Metal-Semiconductor-Metal GeSn Photodetectors on Silicon for Short-Wave Infrared Applications. <i>Micromachines</i> , 2020 , 11,	3.3	14
213	Three-Dimensional Capacitor Embedded in Fully Cu-Filled Through-Silicon Via and Its Thermo-Mechanical Reliability for Power Delivery Applications 2020 ,		2
212	Insights into the Origins of Guided Microtrenches and Microholes/rings from Sn Segregation in Germanium in Epilayers. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 20035-20045	3.8	4
211	Assembly Process and Electrical Properties of Top-Transferred Graphene on Carbon Nanotubes for Carbon-Based 3-D Interconnects. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2020 , 10, 516-524	1.7	4
210	Band structure of Ge _{1-x} Sn _x alloy: a full-zone 30-band k · p model. <i>New Journal of Physics</i> , 2019 , 21, 073037	2.9	13
209	Thermally Reflowed Die-Attached Linear Variable Optical Filter for Mid-Infrared Volatile Organic Compounds Detection. <i>Journal of Microelectromechanical Systems</i> , 2019 , 28, 824-832	2.5	0
208	3D Integration of CMOS-Compatible Surface Electrode Ion Trap and Silicon Photonics for Scalable Quantum Computing 2019 ,		2
207	Electrical properties of FCVA deposited nano-crystalline graphitic carbon thin films with in situ treatment techniques. <i>EPJ Applied Physics</i> , 2019 , 85, 20301	1.1	
206	Deposited poly-Si as on-demand linewidth compensator for on-chip Fabry-Pérot interferometer and vertical linear variable optical filter bandpass and passband manipulation. <i>Journal of Micromechanics and Microengineering</i> , 2019 , 29, 047001	2	3
205	GaN HEMTs with Breakdown Voltage of 2200 V Realized on a 200 mm GaN-on-Insulator(GNOI)-on-Si Wafer 2019 ,		2
204	Graphene-Metal Nanoparticles for Enhancing Thermoelectric Power Factor. <i>IEEE Nanotechnology Magazine</i> , 2019 , 18, 1114-1118	2.6	3
203	Metal-semiconductor-metal photodetectors on a GeSn-on-insulator platform 2019 ,		3
202	Optical design considerations of rear-side dielectric for higher efficiency of PERC solar cells. <i>Optics Express</i> , 2019 , 27, A758-A765	3.3	6
201	Integrating GeSn photodiode on a 200 mm Ge-on-insulator photonics platform with Ge CMOS devices for advanced OEIC operating at 2 μm band. <i>Optics Express</i> , 2019 , 27, 26924-26939	3.3	18
200	Design Considerations and Fabrication Challenges of Surface Electrode Ion Trap with TSV Integration 2019 ,		1
199	TiN Guard Ring Around TSV for Cross-Talk Suppression of Parallel Networking of Data Center 2019 ,		2
198	Guest Editorial Special Section on the Second Electron Devices Technology and Manufacturing (EDTM) Conference 2019. <i>IEEE Journal of the Electron Devices Society</i> , 2019 , 7, 1200-1200	2.3	
197	Dark Current Analysis of Vertical p-i-n Photodetectors on a Germanium-on-Insulator Platform 2019 ,		1

196	Germanium Photodetectors with 60-nm Absorption Coverage Extension and ~20% Quantum Efficiency Enhancement across L-Band 2019 ,			1
195	Development and Integration of Silicon Photonics Interposer for Quantum Computing System 2019 ,			1
194	Cu/Cu Bonding in Ambient Environment by Ar/N ₂ Plasma Surface Activation and Its Characterization. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2019 , 9, 596-605	1.7		6
193	Strain relaxation of germanium-tin (GeSn) fins. <i>AIP Advances</i> , 2018 , 8, 025111	1.5		5
192	Curvature evolution of 200 mm diameter GaN-on-insulator wafer fabricated through metalorganic chemical vapor deposition and bonding. <i>Japanese Journal of Applied Physics</i> , 2018 , 57, 051002	1.4		1
191	Novel three-dimensional carbon nanotube networks as high performance thermal interface materials. <i>Carbon</i> , 2018 , 132, 359-369	10.4		23
190	Suppression of interfacial voids formation during silane (SiH ₄)-based silicon oxide bonding with a thin silicon nitride capping layer. <i>Journal of Applied Physics</i> , 2018 , 123, 015302	2.5		10
189	Monolithic Integration of Si-CMOS and III-V-on-Si Through Direct Wafer Bonding Process. <i>IEEE Journal of the Electron Devices Society</i> , 2018 , 6, 571-578	2.3		16
188	Charging of miniature flat heat pipes. <i>Heat and Mass Transfer</i> , 2018 , 54, 3131-3136	2.2		
187	High-performance GeSn photodetector and fin field-effect transistor (FinFET) on an advanced GeSn-on-insulator platform. <i>Optics Express</i> , 2018 , 26, 10305-10314	3.3		16
186	GeSn lateral p-i-n photodetector on insulating substrate. <i>Optics Express</i> , 2018 , 26, 17312-17321	3.3		25
185	Impacts of doping on epitaxial germanium thin film quality and Si-Ge interdiffusion. <i>Optical Materials Express</i> , 2018 , 8, 1117	2.6		9
184	High-efficiency normal-incidence vertical p-i-n photodetectors on a germanium-on-insulator platform: publisher's note. <i>Photonics Research</i> , 2018 , 6, 46	6		3
183	Germanium-Tin (GeSn) P-Channel Fin Field-Effect Transistor Fabricated on a Novel GeSn-on-Insulator Substrate. <i>IEEE Transactions on Electron Devices</i> , 2018 , 65, 3754-3761	2.9		19
182	High-performance AlGaInP light-emitting diodes integrated on silicon through a superior quality germanium-on-insulator. <i>Photonics Research</i> , 2018 , 6, 290	6		6
181	Optimization and thermal characterization of uniform silicon micropillar based evaporators. <i>International Journal of Heat and Mass Transfer</i> , 2018 , 127, 51-60	4.9		19
180	Dielectric Quality of 3D Capacitor Embedded in Through-Silicon Via (TSV) 2018 ,			1
179	Modeling, Fabrication, and Characterization of 3-D Capacitor Embedded in Through-Silicon Via. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2018 , 8, 1524-1532	1.7		4

178	Thermal design optimization of evaporator micropillar wicks. <i>International Journal of Thermal Sciences</i> , 2018 , 134, 179-187	4.1	9
177	Leakage current conduction mechanism of three-dimensional capacitors embedded in through-silicon vias. <i>Japanese Journal of Applied Physics</i> , 2018 , 57, 07MF01	1.4	1
176	Germanium-on-insulator Pedestal Waveguide for Midinfrared Sensing Applications 2018 ,		1
175	A self-aligned dry etching method for mechanical strain enhancement of germanium and its uniformity improvement for photonic applications 2018 ,		2
174	GeSn p-FinFETs with Sub-10 nm Fin Width Realized on a 200 mm GeSnOI Substrate: Lowest SS of 63 mV/decade, Highest $G_{m,int}$ of 900 $\mu S/\mu m$, and High-Field μ_{eff} of 275 cm^2/Vs 2018 ,		1
173	Fabrication and Characterization of Surface Electrode Ion Trap for Quantum Computing 2018 ,		3
172	. <i>IEEE Journal of Photovoltaics</i> , 2018 , 8, 1627-1634	3.7	2
171	Effects of Copper Migration on the Reliability of Through-Silicon Via (TSV). <i>IEEE Transactions on Device and Materials Reliability</i> , 2018 , 18, 520-528	1.6	4
170	Formation of 45° Silicon (110) Surface Using Triton X-nSurfactants in Potassium Hydroxide for Infrared Applications. <i>ECS Journal of Solid State Science and Technology</i> , 2018 , 7, Q259-Q266	2	
169	In _{0.49} Ga _{0.51} P/GaAs heterojunction bipolar transistors (HBTs) on 200 mm Si substrates: Effects of base thickness, base and sub-collector doping concentrations. <i>AIP Advances</i> , 2018 , 8, 115132	1.5	4
168	MOCVD growth of InGaP/GaAs heterojunction bipolar transistors on 200 mm Si wafers for heterogeneous integration with Si CMOS. <i>Semiconductor Science and Technology</i> , 2018 , 33, 115011	1.8	3
167	Performance of AlGaInP LEDs on silicon substrates through low threading dislocation density (TDD) germanium buffer layer. <i>Semiconductor Science and Technology</i> , 2018 , 33, 104004	1.8	5
166	Spiral Waveguides on Germanium-on-Silicon Nitride Platform for Mid-IR Sensing Applications. <i>IEEE Photonics Journal</i> , 2018 , 10, 1-7	1.8	17
165	Online Condition Monitoring System for DC-Link Capacitor in Industrial Power Converters. <i>IEEE Transactions on Industry Applications</i> , 2018 , 54, 4775-4785	4.3	23
164	Hetero-epitaxy of high quality germanium film on silicon substrate for optoelectronic integrated circuit applications. <i>Journal of Materials Research</i> , 2017 , 32, 4025-4040	2.5	10
163	Germanium-on-insulator virtual substrate for InGaP epitaxy. <i>Materials Science in Semiconductor Processing</i> , 2017 , 70, 17-23	4.3	
162	Fabrication and characterization of single junction GaAs solar cells on Si with As-doped Ge buffer. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 172, 140-144	6.4	21
161	The first GeSn FinFET on a novel GeSnOI substrate achieving lowest S of 79 mV/decade and record high $G_{m,int}$ of 807 $\mu S/\mu m$ for GeSn P-FETs 2017 ,		15

160	Physical and Electrical Characterization of 3D Embedded Capacitor: A High-Density MIM Capacitor Embedded in TSV 2017 ,		5
159	Observations of copper (Cu) transport in through-silicon vias (TSV) structure by electrical characterization for its reliability evaluation 2017 ,		3
158	The GaAs/GaAs/Si solar cell Γ towards current matching in an integrated two terminal tandem. <i>Solar Energy Materials and Solar Cells</i> , 2017 , 160, 94-100	6.4	15
157	Germanium-on-insulator virtual substrate for InGaP epitaxy. <i>Materials Science in Semiconductor Processing</i> , 2017 , 58, 15-21	4.3	4
156	Dielectric relaxation in AC powder electroluminescent devices. <i>Solid State Communications</i> , 2017 , 250, 53-56	1.6	6
155	Low-threshold optically pumped lasing in highly strained germanium nanowires. <i>Nature Communications</i> , 2017 , 8, 1845	17.4	80
154	Thermal stability of germanium-tin (GeSn) fins. <i>Applied Physics Letters</i> , 2017 , 111, 252103	3.4	6
153	Online equivalent series resistance estimation method for condition monitoring of DC-link capacitors 2017 ,		7
152	Extension of Germanium-on-insulator optical absorption edge using CMOS-compatible silicon nitride stressor 2017 ,		2
151	Growth and fabrication of carbon-based three-dimensional heterostructure in through-silicon vias (TSVs) for 3D interconnects 2017 ,		2
150	2017 ,		2
149	Reliability Evaluation of Copper (Cu) Through-Silicon Vias (TSV) Barrier and Dielectric Liner by Electrical Characterization and Physical Failure Analysis (PFA) 2017 ,		4
148	Temperature enhanced spontaneous emission rate spectra in GeSn/Ge quantum wells. <i>Optical Materials Express</i> , 2017 , 7, 800	2.6	7
147	High-efficiency normal-incidence vertical p-i-n photodetectors on a germanium-on-insulator platform. <i>Photonics Research</i> , 2017 , 5, 702	6	36
146	Opto-impedance spectroscopy and equivalent circuit analyses of AC powder electroluminescent devices. <i>Optics Express</i> , 2017 , 25, A454-A466	3.3	10
145	Optimization and thermal characterization of uniform micropillar based silicon evaporator in advanced vapor chambers 2016 ,		1
144	Detailed thermal resistance model for characterization of the overall effective thermal conductivity of a flat heat pipe 2016 ,		0
143	Thin Film Silicon Nanowire/PEDOT:PSS Hybrid Solar Cells with Surface Treatment. <i>Nanoscale Research Letters</i> , 2016 , 11, 311	5	18

142	Novel integration of ultrathin Al ₂ O ₃ with low-k dielectric as bilayer liner for capacitance optimization and stress mitigation in Cu through-silicon-via. <i>Japanese Journal of Applied Physics</i> , 2016 , 55, 04EC08	1.4	
141	(Invited) The Effect of Germanium/Silicon Interface on Germanium Photonics. <i>ECS Transactions</i> , 2016 , 75, 683-688	1	1
140	Through-substrate via (TSV) with embedded capacitor as an on-chip energy storage element 2016 ,		5
139	Experiments on the Biporous Micropillar Array for Enhanced Heat Transfer Performance 2016 ,		1
138	Graphene/CNT hetero-structure for next generation interconnects. <i>RSC Advances</i> , 2016 , 6, 53054-53061	3.7	15
137	Red InGaP light-emitting diodes epitaxially grown on engineered Ge-on-Si substrates 2016 ,		2
136	High-Efficiency Planar Thin-Film Si/PEDOT:PSS Hybrid Solar Cell. <i>IEEE Journal of Photovoltaics</i> , 2016 , 6, 217-222	3.7	2
135	Geometry and Thermal Stress Analysis of In-plane Outgassing Channels in Al ₂ O ₃ -Intermediated InP (Die)-to-Si (Wafer) Bonding. <i>ECS Journal of Solid State Science and Technology</i> , 2016 , 5, P117-P123	2	0
134	Epitaxy and characterization of GaInP/AlInP light-emitting diodes on As-doped Ge/Si substrates. <i>Optics Express</i> , 2016 , 24, 23129-23135	3.3	3
133	On the origins of near-surface stresses in silicon around Cu-filled and CNT-filled through silicon vias. <i>Semiconductor Science and Technology</i> , 2016 , 31, 055008	1.8	2
132	Experiments on the ultrathin silicon vapor chamber for enhanced heat transfer performance 2016 ,		3
131	Reduction of threading dislocation density in Ge/Si using a heavily As-doped Ge seed layer. <i>AIP Advances</i> , 2016 , 6, 025028	1.5	41
130	Maximum boost space vector modulated three-phase three-level neutral-point-clamped quasi-Z-source inverter 2016 ,		2
129	GeSn-on-insulator substrate formed by direct wafer bonding. <i>Applied Physics Letters</i> , 2016 , 109, 022106	3.4	25
128	Cu-Cu Die to Die Surface Activated Bonding in Atmospheric Environment Using Ar and Ar/N ₂ Plasma. <i>ECS Transactions</i> , 2016 , 75, 109-116	1	4
127	(Invited) Novel Integrated Circuit Platforms Employing Monolithic Silicon CMOS + GaN Devices. <i>ECS Transactions</i> , 2016 , 75, 31-37	1	5
126	Enhanced copper micro/nano-particle mixed paste sintered at low temperature for 3D interconnects. <i>Applied Physics Letters</i> , 2016 , 108, 263103	3.4	22
125	Germanium-on-silicon nitride waveguides for mid-infrared integrated photonics. <i>Applied Physics Letters</i> , 2016 , 109, 241101	3.4	47

124	Non-destructive degradation study of copper wire bond for its temperature cycling reliability evaluation. <i>Microelectronics Reliability</i> , 2016 , 61, 56-63	1.2	3
123	Color tunable hybrid AC powder electroluminescent devices with organic fluorescent materials. <i>Optical Materials Express</i> , 2016 , 6, 2879	2.6	15
122	(Invited) SiGe and III-V Materials and Devices: New HEMT and LED Elements in 0.18-Micron CMOS Process and Design. <i>ECS Transactions</i> , 2016 , 75, 439-446	1	12
121	Integration of GaAs, GaN, and Si-CMOS on a common 200 mm Si substrate through multilayer transfer process. <i>Applied Physics Express</i> , 2016 , 9, 086501	2.4	27
120	Characterization of the Young's modulus, residual stress and fracture strength of Cu ₉₀ Ni ₁₀ thin films using combinatorial deposition and micro-cantilevers. <i>Journal of Micromechanics and Microengineering</i> , 2015 , 25, 035023	2	7
119	Integration of III-V materials and Si-CMOS through double layer transfer process. <i>Japanese Journal of Applied Physics</i> , 2015 , 54, 030209	1.4	12
118	Characterization of Hetero-Epitaxial Ge Films on Si Using Multiwavelength Micro-Raman Spectroscopy. <i>ECS Journal of Solid State Science and Technology</i> , 2015 , 4, P9-P15	2	4
117	. <i>IEEE Transactions on Device and Materials Reliability</i> , 2015 , 15, 142-148	1.6	7
116	The role of AsH ₃ partial pressure on anti-phase boundary in GaAs-on-Ge grown by MOCVD □ Application to a 200 mm GaAs virtual substrate. <i>Journal of Crystal Growth</i> , 2015 , 421, 58-65	1.6	25
115	UV/O ₃ assisted InP/Al ₂ O ₃ /Al ₂ O ₃ /Si low temperature die to wafer bonding. <i>Microsystem Technologies</i> , 2015 , 21, 1015-1020	1.7	4
114	Enabling the integrated circuits of the future 2015 ,		3
113	Direct copper-copper wafer bonding with Ar/N ₂ plasma activation 2015 ,		4
112	Monolithic integration of III-V HEMT and Si-CMOS through TSV-less 3D wafer stacking 2015 ,		8
111	Implementation of carbon nanotube bundles in sub-5 micron diameter through-silicon-via structures for three-dimensionally stacked integrated circuits. <i>Materials Today Communications</i> , 2015 , 2, e16-e25	2.5	9
110	Enhanced Si ₃ N ₄ interdiffusion in high phosphorus-doped germanium on silicon. <i>Semiconductor Science and Technology</i> , 2015 , 30, 105008	1.8	10
109	Optimization of Biporous Micropillar Array for Enhanced Heat Transfer Performance 2015 ,		3
108	Defects reduction of Ge epitaxial film in a germanium-on-insulator wafer by annealing in oxygen ambient. <i>APL Materials</i> , 2015 , 3, 016102	5.7	36
107	Paper No P19: Characteristic of Thermal Behavior and Optical Performance of AC Powder Electroluminescence Panel under Controlled Temperature. <i>Digest of Technical Papers SID International Symposium</i> , 2015 , 46, 86-86	0.5	

106	Integration of CNTs in 3D-IC interconnects: a non-destructive approach for the precise characterization and elucidation of interfacial properties. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 2082-2089	13	3
105	Copper micro and nano particles mixture for 3D interconnections application 2015 ,		1
104	Fabrication of germanium-on-insulator (GOI) with improved threading dislocation density (TDD) via buffer-less epitaxy and bonding 2014 ,		2
103	Robust Electromigration reliability through engineering optimization. <i>Microelectronics Reliability</i> , 2014 , 54, 1666-1670	1.2	
102	TSV-less 3D stacking of MEMS and CMOS via low temperature Al-Au direct bonding with simultaneous formation of hermetic seal 2014 ,		2
101	Detection of Ge and Si Intermixing in Ge/Si Using Multiwavelength Micro-Raman Spectroscopy. <i>ECS Transactions</i> , 2014 , 64, 79-88	1	2
100	Experimental characterization of Si micropillar based evaporator for advanced vapor chambers 2014 ,		3
99	Design, Simulation and Characterization of Wheatstone Bridge Structured Metal Thin Film Uncooled Microbolometer. <i>Procedia Engineering</i> , 2014 , 94, 6-13		3
98	Homogeneous Chip to Wafer Bonding of InP-Al ₂ O ₃ -Si Using UV/O ₃ Activation. <i>ECS Journal of Solid State Science and Technology</i> , 2014 , 3, P43-P47	2	9
97	High- κ Al ₂ O ₃ material in low temperature wafer-level bonding for 3D integration application. <i>AIP Advances</i> , 2014 , 4, 031311	1.5	3
96	Fabrication and characterization of germanium-on-insulator through epitaxy, bonding, and layer transfer. <i>Journal of Applied Physics</i> , 2014 , 116, 103506	2.5	40
95	Uncooled resonant infrared detector based on aluminum nitride piezoelectric film through charge generations and lattice absorptions. <i>Applied Physics Letters</i> , 2014 , 104, 201110	3.4	6
94	Monolithic CMOS-MEMS integration for high-g accelerometers 2014 ,		1
93	Effect of bonding temperature on hermetic seal and mechanical support of wafer-level Cu-to-Cu thermo-compression bonding for 3D integration. <i>Microsystem Technologies</i> , 2013 , 19, 661-667	1.7	6
92	Comparative Studies of the Growth and Characterization of Germanium Epitaxial Film on Silicon (001) with 0° and 6° Offcut. <i>Journal of Electronic Materials</i> , 2013 , 42, 1133-1139	1.9	20
91	Cu-Cu Hermetic Seal Enhancement Using Self-Assembled Monolayer Passivation. <i>Journal of Electronic Materials</i> , 2013 , 42, 502-506	1.9	7
90	(Invited) Cu Surface Passivation with Self-Assembled Monolayer (SAM) and Its Application for Wafer Bonding at Moderately Low Temperature. <i>ECS Transactions</i> , 2013 , 50, 115-123	1	12
89	Effects of surface treatment on the bonding quality of wafer-level Cu-to-Cu thermo-compression bonding for 3D integration. <i>Journal of Micromechanics and Microengineering</i> , 2013 , 23, 045025	2	27

88	Experiment and modeling of microstructured capillary wicks for thermal management of electronics 2013 ,		4
87	Reliable 3-D Clock-Tree Synthesis Considering Nonlinear Capacitive TSV Model With ElectricalThermalMechanical Coupling. <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , 2013 , 32, 1734-1747	2.5	28
86	Growth and characterization of germanium epitaxial film on silicon (001) with germane precursor in metal organic chemical vapour deposition (MOCVD) chamber. <i>AIP Advances</i> , 2013 , 3, 092123	1.5	39
85	Effect of direct current stressing to CuCu bond interface imperfection for three dimensional integrated circuits. <i>Microelectronic Engineering</i> , 2013 , 106, 149-154	2.5	4
84	. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 56-62	2.9	7
83	CuCu Bond Quality Enhancement Through the Inclusion of a Hermetic Seal for 3-D IC. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 1444-1450	2.9	4
82	Thermal-reliable 3D clock-tree synthesis considering nonlinear electrical-thermal-coupled TSV model 2013 ,		9
81	The dependency of TSV keep-out zone (KOZ) on Si crystal direction and liner material 2013 ,		1
80	Integration of CNT in TSV (B h) for 3D IC application and its process challenges 2013 ,		2
79	Study of Hydrophilic Si Direct Bonding with Ultraviolet Ozone Activation for 3D Integration. <i>ECS Transactions</i> , 2013 , 50, 17-27	1	4
78	Thermal Characteristics of InP-Al ₂ O ₃ /Si Low Temperature Heterogeneous Direct Bonding for Photonic Device Integration. <i>ECS Journal of Solid State Science and Technology</i> , 2013 , 2, N169-N174	2	13
77	Single-mode surface-emitting concentric-circular-grating terahertz quantum cascade lasers. <i>Applied Physics Letters</i> , 2013 , 102, 031119	3.4	22
76	High throughput Cu-Cu bonding by non-thermo-compression method 2013 ,		4
75	Growth and characterization of germanium epitaxial film on silicon (001) using reduced pressure chemical vapor deposition. <i>Thin Solid Films</i> , 2012 , 520, 2711-2716	2.2	47
74	. <i>IEEE Electron Device Letters</i> , 2012 , 33, 1747-1749	4.4	23
73	Strategy for TSV scaling with consideration on thermo-mechanical stress and acceptable delay 2012 ,		5
72	Thermal characterization of TSV array as heat removal element in 3D IC stacking 2012 ,		3
71	. <i>IEEE Electron Device Letters</i> , 2012 , 33, 875-877	4.4	11

70	Three-Dimensional Wafer Stacking Using Cu-Cu Bonding for Simultaneous Formation of Electrical, Mechanical, and Hermetic Bonds. <i>IEEE Transactions on Device and Materials Reliability</i> , 2012 , 12, 194-200	1.6	25
69	Effect of Prebonding Anneal on the Microstructure Evolution and Cu-Cu Diffusion Bonding Quality for Three-Dimensional Integration. <i>Journal of Electronic Materials</i> , 2012 , 41, 2567-2572	1.9	4
68	Novel development of the micro-tensile test at elevated temperature using a test structure with integrated micro-heater. <i>Journal of Micromechanics and Microengineering</i> , 2012 , 22, 085015	2	9
67	Effect of Nickel Silicide Induced Dopant Segregation on Vertical Silicon Nanowire Diode Performance. <i>Materials Research Society Symposia Proceedings</i> , 2012 , 1439, 89-94		
66	Through Silicon Via Fabrication with Low- κ Dielectric Liner and Its Implications on Parasitic Capacitance and Leakage Current. <i>Japanese Journal of Applied Physics</i> , 2012 , 51, 04DB03	1.4	1
65	Vertical Silicon Nanowire Diode with Nickel Silicide Induced Dopant Segregation. <i>Japanese Journal of Applied Physics</i> , 2012 , 51, 11PE08	1.4	
64	Study of Hydrophilic Si Direct Bonding with Ultraviolet Ozone Activation for 3D Integration. <i>ECS Journal of Solid State Science and Technology</i> , 2012 , 1, P291-P296	2	10
63	Force-induced optical nonlinearity and Kerr-like coefficient in opto-mechanical ring resonators. <i>Optics Express</i> , 2012 , 20, 18005-15	3.3	18
62	3D integration of MEMS and CMOS via Cu-Cu bonding with simultaneous formation of electrical, mechanical and hermetic bonds 2012 ,		4
61	Effects of nanowire texturing on the performance of Si/organic hybrid solar cells fabricated with a 2.2 μ m thin-film Si absorber. <i>Applied Physics Letters</i> , 2012 , 100, 103104	3.4	42
60	Integration of Low- κ Dielectric Liner in Through Silicon Via and Thermomechanical Stress Relief. <i>Applied Physics Express</i> , 2012 , 5, 126601	2.4	8
59	Direct Bonding of Ge-Ge Using Epitaxially Grown Ge-on-Si Wafers. <i>ECS Journal of Solid State Science and Technology</i> , 2012 , 1, P18-P22	2	2
58	Surface Passivation of Cu for Low Temperature 3D Wafer Bonding. <i>ECS Solid State Letters</i> , 2012 , 1, P11-P14		8
57	Wafer-level hermetic packaging of 3D microsystems with low-temperature Cu-to-Cu thermo-compression bonding and its reliability. <i>Journal of Micromechanics and Microengineering</i> , 2012 , 22, 105004	2	12
56	Selection of underfill material in Cu hybrid bonding and its effect on the transistor keep-out-zone 2012 ,		1
55	. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 2500-2506	2.9	22
54	Achieving Stable Through-Silicon Via (TSV) Capacitance with Oxide Fixed Charge. <i>IEEE Electron Device Letters</i> , 2011 , 32, 668-670	4.4	38
53	High density bump-less Cu-Cu bonding with enhanced quality achieved by pre-bonding temporary passivation for 3D wafer stacking 2011 ,		8

52	Study of the evolution of Cu-Cu bonding interface imperfection under direct current stressing for three dimensional integrated circuits 2011 ,		5
51	Low Temperature Wafer Bonding of Low-Carbon Doped Oxide (CDO) for High Performance 3D IC Application. <i>Journal of the Electrochemical Society</i> , 2011 , 158, H1107	3.9	5
50	PE-TEOS Wafer Bonding Enhancement at Low Temperature with a High-Dielectric Capping Layer of Al ₂ O ₃ . <i>Journal of the Electrochemical Society</i> , 2011 , 158, H137	3.9	10
49	Thermal reliability of fine pitch Cu-Cu bonding with self assembled monolayer (SAM) passivation for Wafer-on-Wafer 3D-Stacking 2011 ,		11
48	Wafer-on-Wafer Stacking by Bumpless Cu-Cu Bonding and Its Electrical Characteristics. <i>IEEE Electron Device Letters</i> , 2011 , 32, 943-945	4.4	11
47	Dopant profile control of epitaxial emitter for silicon solar cells by low temperature epitaxy. <i>Applied Physics Letters</i> , 2011 , 99, 011102	3.4	6
46	2011 ,		4
45	Comparison between chemical vapor deposited and physical vapor deposited WSi ₂ metal gate for InGaAs n-metal-oxide-semiconductor field-effect transistors. <i>Applied Physics Letters</i> , 2011 , 98, 182102	3.4	2
44	Spatial variation of TSV capacitance and method of stabilization with Al ₂ O ₃ -induced negative fixed charge at the silicon-liner interface 2011 ,		1
43	Modeling of Electromigration Induced Contact Resistance Reduction of Cu-Cu Bonded Interface. <i>Journal of the Electrochemical Society</i> , 2011 , 158, H405	3.9	1
42	Design and Modeling of Platinum Thin Film Microheater for High Temperature Microtensile Test Application. <i>Advanced Materials Research</i> , 2011 , 254, 9-12	0.5	
41	Low temperature wafer-level bonding for hermetic packaging of 3D microsystems. <i>Journal of Micromechanics and Microengineering</i> , 2011 , 21, 075006	2	19
40	Enhancing Cu-Cu Diffusion Bonding at Low Temperature Via Application of Self-assembled Monolayer Passivation. <i>Journal of the Electrochemical Society</i> , 2011 , 158, H1057	3.9	15
39	Low Temperature Cu-to-Cu Bonding for Wafer-Level Hermetic Encapsulation of 3D Microsystems. <i>Electrochemical and Solid-State Letters</i> , 2011 , 14, H470		20
38	Low Temperature Wafer Bonding of Low-Carbon-Doped Oxide for Application in 3D Integration. <i>Electrochemical and Solid-State Letters</i> , 2010 , 13, H27		9
37	(Invited) PE-TEOS Wafer Bonding Enhancement at Low Temperature with a High-k Dielectric Capping Layer. <i>ECS Transactions</i> , 2010 , 28, 489-498	1	2
36	Effect of Using Chemical Vapor Deposition WSi ₂ and Postmetallization Annealing on GaAs Metal-Oxide-Semiconductor Capacitors. <i>Electrochemical and Solid-State Letters</i> , 2010 , 13, H328		2
35	Void Density Reduction at the Cu-Cu Bonding Interface by Means of Prebonding Surface Passivation with Self-Assembled Monolayer. <i>Electrochemical and Solid-State Letters</i> , 2010 , 13, H412		9

34	Mitigating heat dissipation and thermo-mechanical stress challenges in 3-D IC using thermal through silicon via (TTSV) 2010 ,		9
33	Design, fabrication and electrical characterization of TSV 2010 ,		3
32	Low temperature bump-less Cu-Cu bonding enhancement with self assembled monolayer (SAM) passivation for 3-D integration 2010 ,		14
31	Carrierless design for handling and processing of ultrathin wafers 2010 ,		16
30	Application of self-assembled monolayer (SAM) in low temperature bump-less Cu-Cu bonding for advanced 3D IC 2010 ,		6
29	Fabrication and characterization of bump-less Cu-Cu bonding by wafer-on-wafer stacking for 3D IC 2010 ,		2
28	Fine-pitch bump-less Cu-Cu bonding for wafer-on-wafer stacking and its quality enhancement 2010 ,		5
27	Thermal characteristic of Cu-Cu bonding layer in 3-D integrated circuits stack. <i>Microelectronic Engineering</i> , 2010 , 87, 682-685	2.5	8
26	Achieving low temperature Cu to Cu diffusion bonding with self assembly monolayer (SAM) passivation 2009 ,		10
25	Low Temperature PE-TEOS Oxide Bonding Assisted by a Thin Layer of High-Dielectric. <i>Electrochemical and Solid-State Letters</i> , 2009 , 12, H408		12
24	2009 ,		2
23	Thermal mitigation using thermal through silicon via (TTSV) in 3-D ICs 2009 ,		4
22	Cu-Cu diffusion bonding enhancement at low temperature by surface passivation using self-assembled monolayer of alkane-thiol. <i>Applied Physics Letters</i> , 2009 , 95, 192108	3.4	101
21	Impact of thermal through silicon via (TTSV) on the temperature profile of multi-layer 3-D device stack 2009 ,		5
20	Fabrication Using Copper Thermo-Compression Bonding at MIT 2008 , 431-446		
19	Overview of Wafer-Level 3D ICs. <i>Integrated Circuits and Systems</i> , 2008 , 1-11	0.2	28
18	Bonding parameters of blanket copper wafer bonding. <i>Journal of Electronic Materials</i> , 2006 , 35, 230-234	1.9	49
17	Copper bonded layers analysis and effects of copper surface conditions on bonding quality for three-dimensional integration. <i>Journal of Electronic Materials</i> , 2005 , 34, 1464-1467	1.9	49

16	The effect of forming gas anneal on the oxygen content in bonded copper layer. <i>Journal of Electronic Materials</i> , 2005 , 34, 1598-1602	1.9	17
15	Silicon Multilayer Stacking Based on Copper Wafer Bonding. <i>Electrochemical and Solid-State Letters</i> , 2005 , 8, G147		60
14	Observation of interfacial void formation in bonded copper layers. <i>Applied Physics Letters</i> , 2005 , 87, 201909	3.4	34
13	Abnormal contact resistance reduction of bonded copper interconnects in three-dimensional integration during current stressing. <i>Applied Physics Letters</i> , 2005 , 86, 011903	3.4	31
12	Process development and bonding quality investigations of silicon layer stacking based on copper wafer bonding. <i>Applied Physics Letters</i> , 2005 , 87, 031909	3.4	21
11	Microelectronics Thin Film Handling and Transfer Using Low-Temperature Wafer Bonding. <i>Electrochemical and Solid-State Letters</i> , 2005 , 8, G362		11
10	Low-Temperature Direct CVD Oxides to Thermal Oxide Wafer Bonding in Silicon Layer Transfer. <i>Electrochemical and Solid-State Letters</i> , 2005 , 8, G1		20
9	Morphology and Bond Strength of Copper Wafer Bonding. <i>Electrochemical and Solid-State Letters</i> , 2004 , 7, G14		116
8	Technology, performance, and computer-aided design of three-dimensional integrated circuits 2004 ,		95
7	Temperature and duration effects on microstructure evolution during copper wafer bonding. <i>Journal of Electronic Materials</i> , 2003 , 32, 1371-1374	1.9	32
6	Low-temperature thermal oxide to plasma-enhanced chemical vapor deposition oxide wafer bonding for thin-film transfer application. <i>Applied Physics Letters</i> , 2003 , 82, 2649-2651	3.4	41
5	Microstructure evolution and abnormal grain growth during copper wafer bonding. <i>Applied Physics Letters</i> , 2002 , 81, 3774-3776	3.4	70
4	Photoluminescence Evolution with Deposition Thickness of Ge Nanostructures Embedded in GaSb. <i>Physica Status Solidi (B): Basic Research</i> , 2100418	1.3	
3	Systematic study on photoexcited carrier dynamics related to defects in GeSn Films with low Sn content at room temperature. <i>Semiconductor Science and Technology</i> ,	1.8	1
2	Thermocompression Cu?Cu Bonding of Blanket and Patterned Wafers 161-180		3
1	PIC-integrable, uniformly 056%-tensile strained Ge-on-insulator photodiodes enabled by recessed SiNx stressor. <i>Photonics Research</i> ,	6	2