# Scott T Dunham

List of Publications by Year
in descending order



| 57 | 829 | 516710 16 | 501196 28 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 59 | 59 | 59 | 1140 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Nonvolatile Electrically Reconfigurable Integrated Photonic Switch Enabled by a Silicon PIN Diode Heater. Advanced Materials, 2020, 32, e2001218. | 21.0 | 152 |
| 2 | Variation of Band Gap and Lattice Parameters of Î²â^'(Al<sub>x</sub>Ga<sub>1â^'x</sub>)<sub>2</sub>O<sub>3</sub> Powder Produced by Solution Combustion Synthesis. Journal of the American Ceramic Society, 2016, 99, 2467-2473. | 3.8 | 87 |
| 3 | Modeling Electrical Switching of Nonvolatile Phase-Change Integrated Nanophotonic Structures with Graphene Heaters. ACS Applied Materials & Interfaces, 2020, 12, 21827-21836. | 8.0 | 78 |
| 4 | Simulation of grain boundary effects on electronic transport in metals, and detailed causes of scattering. Physica Status Solidi (B): Basic Research, 2010, 247, 1791-1796. | 1.5 | 55 |
| 5 | Spinodal Decomposition During Anion Exchange in Colloidal Mn<sup>2+</sup>-Doped CsPbX<sub>3</sub> (X = Cl, Br) Perovskite Nanocrystals. Chemistry of Materials, 2019, 31, 7711-7722. | 6.7 | 36 |
| 6 | Kinetics of Isovalent (Cd<sup>2+</sup>) and Aliovalent (In<sup>3+</sup>) Cation Exchange in Cd<sub>1â€“x</sub>Mn<sub>x</sub>Se Nanocrystals. Journal of the American Chemical Society, 2016, 138, 12885-12893. | 13.7 | 30 |
| 7 | Calculation of Cu/Ta interface electron transmission and effect on conductivity in nanoscale interconnect technology. Applied Physics Letters, 2009, 95, . | 3.3 | 26 |
| 8 | Stress effects on impurity solubility in crystalline materials: A general model and density-functional calculations for dopants in silicon. Physical Review B, 2009, 79, . | 3.2 | 26 |
| 9 | Phosphorus vacancy cluster model for phosphorus diffusion gettering of metals in Si. Journal of Applied Physics, 2014, 115, 054906. | 2.5 | 24 |
| 10 | A simple continuum model for boron clustering based on atomistic calculations. Journal of Applied Physics, 2001, 89, 3650-3655. | 2.5 | 23 |
| 11 | Dependence of resistivity on surface profile in nanoscale metal films and wires. Journal of Applied Physics, 2008, 103, . | 2.5 | 23 |
| 12 | Alignment of the diamond nitrogen vacancy center by strain engineering. Applied Physics Letters, 2014, 105, . | 3.3 | 22 |
| 13 | Universal machine learning framework for defect predictions in zinc blende semiconductors. Patterns, 2022, 3, 100450. | 5.9 | 22 |
| 14 | Window into NV center kinetics via repeated annealing and spatial tracking of thousands of individual NV centers. Physical Review Materials, 2020, 4, . | 2.4 | 21 |
| 15 | A model for phosphosilicate glass deposition via POCl3 for control of phosphorus dose in Si. Journal of Applied Physics, 2012, 112, 124912. | 2.5 | 18 |
| 16 | Calculation of Defect Concentrations and Phase Stability in Cu$_2$ ZnSnS$_4$ and Cu$_2$ ZnSnSe$_4$ From Stoichiometry. IEEE Journal of Photovoltaics, 2015, 5, 1188-1196. | 2.5 | 17 |
| 17 | Modeling of vacancy cluster formation in ion implanted silicon. Journal of Applied Physics, 2001, 89, 4758-4765. | 2.5 | 15 |
| 18 | First principles calculations of dopant solubility based on strain compensation and direct binding between dopants and group IV impurities. Journal of Vacuum Science & Technology B, 2006, 24, 700. | 1.3 | 12 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Combined three-dimensional electromagnetic and device modeling of surface plasmon-enhanced organic solar cells incorporating low aspect ratio silver nanoprisms. Applied Physics Letters, 2013, 103, 183303. | 3.3 | 12 |
| 20 | The Impact of Charged Grain Boundaries on CdTe Solar Cell: EBIC Measurements Not Predictive of Device Performance. IEEE Journal of Photovoltaics, 2017, 7, 329-334. | 2.5 | 12 |
| 21 | Ab-initio Calculations to Model Anomalous Fluorine Behavior. Materials Research Society Symposia Proceedings, 2002, 717, 1. | 0.1 | 11 |
| 22 | Charge carrier induced lattice strain and stress effects on As activation in Si. Applied Physics Letters, 2008, 93, . | 3.3 | 10 |
| 23 | Design of Anodic Aluminum Oxide Rear Surface Plasmonic Heterostructures for Light Trapping in Thin Silicon Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 1212-1219. | 2.5 | 10 |
| 24 | Accurate modeling of copper precipitation kinetics including Fermi level dependence. Applied Physics Letters, 2006, 89, 182106. | 3.3 | 9 |
| 25 | A combined model for {311} defect and dislocation loop evolution: Analytical formulation of kinetic precipitation model. Journal of Applied Physics, 2002, 91, 2883-2889. | 2.5 | 8 |
| 26 | Calculation of dopant segregation ratios at semiconductor interfaces. Physical Review B, 2008, 78, . | 3.2 | 8 |
| 27 | Analyzing emitter dopant inhomogeneities at textured Si surfaces by using 3D process and device simulations in combination with SEM imaging. , 2012, , . | | 8 |
| 28 | Kinetic lattice Monte Carlo simulations of interdiffusion in strained silicon germanium alloys. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C1G18-C1G23. | 1.2 | 6 |
| 29 | Modeling Fermi Level Effects in Atomistic Simulations. Materials Research Society Symposia Proceedings, 2002, 717, 1. | 0.1 | 5 |
| 30 | Correlation factors for interstitial-mediated self-diffusion in the diamond lattice: Kinetic lattice Monte Carlo approach. Physical Review B, 2011, 83, . | 3.2 | 5 |
| 31 | Defects in Na-, K-, and Cd-Doped CuInSe$_2$ : Canonical Thermodynamics Based on Ab Initio Calculations. IEEE Journal of Photovoltaics, 2017, 7, 1143-1152. | 2.5 | 5 |
| 32 | Modeling of Defect Evolution and TED under Stress based on DFT Calculations. , 2006, , . | | 3 |
| 33 | Calculations of codoping effects between combinations of donors (P/As/Sb) and acceptors (B/Ga/In) in Si. Journal of Applied Physics, 2007, 102, 123709. | 2.5 | 3 |
| 34 | Coupled modeling of evolution of impurity/defect distribution and cell performance. , 2012, , . | | 3 |
| 35 | Molecular dynamics modeling of solid phase epitaxial regrowth. Journal of Applied Physics, 2012, 111, 114504. | 2.5 | 3 |
| 36 | Ab Initio Study of Carbon Impurities in Cu$_2$ ZnSnS$_4$. IEEE Journal of Photovoltaics, 2016, 6, 562-570. | 2.5 | 3 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Understanding and Modeling Ramp Rate Effects on Shallow Junction Formation. Materials Research Society Symposia Proceedings, 2000, 610, 481. | 0.1 | 2 |
| 38 | 3D Optical and device simulation of surface plasmonic effects on organic solar cells using silver nano prisms. , 2011, , . | | 2 |
| 39 | End-to-end predictive modeling of silicon solar cell performance: From process recipe to device simulation. , 2011, , . | | 2 |
| 40 | First-principles calculations of Na and K impurities in CuInSe<inf>2</inf> and their effect on Cd incorporation. , 2016, , . | | 2 |
| 41 | Atomistic models of Cu diffusion in CuInSe2 under variations in composition. Journal of Applied Physics, 2018, 123, 115116. | 2.5 | 2 |
| 42 | Modeling of Annealing of High Concentration Arsenic Profiles. Materials Research Society Symposia Proceedings, 2001, 669, 1. | 0.1 | 1 |
| 43 | Atomistic Simulations of Effect of Coulombic Interactions on Carrier Fluctuations in Doped Silicon. Materials Research Society Symposia Proceedings, 2003, 765, 1. | 0.1 | 1 |
| 44 | Predictive models for co-doping effects between combinations of donors (P/As/Sb) and acceptors (B/Ga/In). , 2006, , . | | 1 |
| 45 | Atomistic modeling of dopant diffusion and segregation in strained SiGeC. , 2008, , . | | 1 |
| 46 | Multiscale modeling of nanoscale device fabrication. , 2010, , . | | 1 |
| 47 | Enhanced EBIC response but degraded solar cell performance for CdTe grain boundaries. , 2016, , . | | 1 |
| 48 | Monte Carlo modeling of phase separation in CuIn<inf>x</inf>Ga<inf>1âˆ'x</inf>Se<inf>2</inf>. , 2016, , . | | 1 |
| 49 | Understanding copper diffusion in CuInSe2 with first-principles based atomistic and continuum models. Journal of Applied Physics, 2021, 130, . | 2.5 | 1 |
| 50 | Stress Effects on As Activation in Si. Materials Research Society Symposia Proceedings, 2007, 994, 1. | 0.1 | 0 |
| 51 | A comparison of optical modulator structures using a matrix simulation approach. Optical and Quantum Electronics, 2008, 40, 431-437. | 3.3 | 0 |
| 52 | Ab Initio Calculations of Crystalline and Amorphous In2Se3 Compounds for Chalcogenide Phase Change Memory. Materials Research Society Symposia Proceedings, 2010, 1251, 34. | 0.1 | 0 |
| 53 | Optical and Electrical Modeling of Polymer Thin-film Photovoltaics. Materials Research Society Symposia Proceedings, 2010, 1270, 1. | 0.1 | 0 |
| 54 | Formation energies of carbon related defects in Cu<inf>2</inf>ZnSnS<inf>4</inf>. , 2014, , . | | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Calculation of defect concentrations in Cu<inf>2</inf>ZnSnS<inf>4</inf> from stoichiometry. , 2014, , . | | 0 |
| 56 | Interaction of O<sub>2i</sub> Dimers with Ga in Si and Implications for a Comprehensive Model of Light- Induced Degradation. , 2017, , . | | 0 |
| 57 | Reduced photothermal heating in diamonds enriched with H3 point defects. Journal of Applied Physics, 2022, 131, 234401. | 2.5 | 0 |