

Pierre A Deymier

List of Publications by Year in descending order

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2,833
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51
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101
all docs

101
docs citations

101
times ranked

1975
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Experimental and Theoretical Evidence for the Existence of Absolute Acoustic Band Gaps in Two-Dimensional Solid Phononic Crystals. <i>Physical Review Letters</i> , 2001, 86, 3012-3015. | 2.9 | 472 |
| 2 | Absolute forbidden bands and waveguiding in two-dimensional phononic crystal plates. <i>Physical Review B</i> , 2008, 77, . | 1.1 | 228 |
| 3 | Tunable magnetoelastic phononic crystals. <i>Applied Physics Letters</i> , 2009, 95, . | 1.5 | 181 |
| 4 | Transmission and dispersion relations of perfect and defect-containing waveguide structures in phononic band gap materials. <i>Physical Review B</i> , 2003, 68, . | 1.1 | 178 |
| 5 | Waveguiding in two-dimensional piezoelectric phononic crystal plates. <i>Journal of Applied Physics</i> , 2007, 101, 114904. | 1.1 | 154 |
| 6 | Transmittivity through straight and stublike waveguides in a two-dimensional phononic crystal. <i>Physical Review B</i> , 2002, 65, . | 1.1 | 128 |
| 7 | Bulk elastic waves with unidirectional backscattering-immune topological states in a time-dependent superlattice. <i>Journal of Applied Physics</i> , 2015, 118, . | 1.1 | 119 |
| 8 | Band gap tunability of magneto-elastic phononic crystal. <i>Journal of Applied Physics</i> , 2012, 111, . | 1.1 | 116 |
| 9 | Positive, negative, zero refraction, and beam splitting in a solid/air phononic crystal: Theoretical and experimental study. <i>Physical Review B</i> , 2009, 79, . | 1.1 | 96 |
| 10 | Elastic and viscoelastic effects in rubber/air acoustic band gap structures: A theoretical and experimental study. <i>Journal of Applied Physics</i> , 2008, 104, . | 1.1 | 61 |
| 11 | Band structures tunability of bulk 2D phononic crystals made of magneto-elastic materials. <i>AIP Advances</i> , 2011, 1, . | 0.6 | 61 |
| 12 | Resolution limit of a phononic crystal superlens. <i>Physical Review B</i> , 2011, 83, . | 1.1 | 57 |
| 13 | Elastic wave propagation along waveguides in three-dimensional phononic crystals. <i>Physical Review B</i> , 2004, 70, . | 1.1 | 41 |
| 14 | Brillouin scattering-like effect and non-reciprocal propagation of elastic waves due to spatio-temporal modulation of electrical boundary conditions in piezoelectric media. <i>Applied Physics Letters</i> , 2017, 110, . | 1.5 | 41 |
| 15 | Sono-chemical treatment of per- and poly-fluoroalkyl compounds in aqueous film-forming foams by use of a large-scale multi-transducer dual-frequency based acoustic reactor. <i>Ultrasonics Sonochemistry</i> , 2018, 45, 213-222. | 3.8 | 41 |
| 16 | Torsional topology and fermion-like behavior of elastic waves in phononic structures. <i>Comptes Rendus - Mécanique</i> , 2015, 343, 700-711. | 2.1 | 31 |
| 17 | Structure of $ZnCl_2$ Melt. Part II: Fragile-to-Strong Transition in a Tetrahedral Liquid. <i>Journal of Physical Chemistry B</i> , 2017, 121, 11210-11218. | 1.2 | 29 |
| 18 | Streaming and removal forces due to second-order sound field during megasonic cleaning of silicon wafers. <i>Journal of Applied Physics</i> , 2000, 88, 6821-6835. | 1.1 | 28 |

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|----|--|-----|-----------|
| 19 | Molecular dynamics simulations of atomic-level brittle fracture mechanisms in amorphous silica. <i>Journal of Materials Science</i> , 2007, 42, 4159-4169. | 1.7 | 28 |
| 20 | One-Dimensional Mass-Spring Chains Supporting Elastic Waves with Non-Conventional Topology. <i>Crystals</i> , 2016, 6, 44. | 1.0 | 28 |
| 21 | Interplay between structure and transport properties of molten salt mixtures of ZnCl ₂ -NaCl-KCl: A molecular dynamics study. <i>Journal of Chemical Physics</i> , 2016, 144, 094501. | 1.2 | 28 |
| 22 | Electroless metal plating of microtubules: Effect of microtubule-associated proteins. <i>Journal of Materials Science</i> , 2004, 39, 1927-1933. | 1.7 | 26 |
| 23 | Sound Topology, Duality, Coherence and Wave-Mixing. <i>Springer Series in Solid-state Sciences</i> , 2017, , . | 0.3 | 26 |
| 24 | Wavelet methods for analysing and bridging simulations at complementary scales - the compound wavelet matrix and application to microstructure evolution. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2000, 8, 649-664. | 0.8 | 25 |
| 25 | Phase-controlling phononic crystal. <i>Applied Physics Letters</i> , 2011, 98, . | 1.5 | 23 |
| 26 | Rotational modes in a phononic crystal with fermion-like behavior. <i>Journal of Applied Physics</i> , 2014, 115, . | 1.1 | 22 |
| 27 | Theoretical calculation of the acoustic force on a patterned silicon wafer during megasonic cleaning. <i>Journal of Applied Physics</i> , 2000, 88, 2423-2429. | 1.1 | 21 |
| 28 | Experimental evaluation of electrical conductivity of microtubules. <i>Journal of Materials Science</i> , 2007, 42, 373-378. | 1.7 | 21 |
| 29 | Direct observation of the phonon dispersion of a three-dimensional solid/solid hypersonic colloidal crystal. <i>Physical Review B</i> , 2013, 88, . | 1.1 | 21 |
| 30 | Impact of Local Curvature and Structural Defects on Graphene-C ₆₀ Fullerene Fusion Reaction Barriers. <i>Journal of Physical Chemistry C</i> , 2013, 117, 19664-19671. | 1.5 | 20 |
| 31 | Phonon Scattering in One-Dimensional Anharmonic Crystals and Superlattices: Analytical and Numerical Study. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2013, 135, . | 1.0 | 20 |
| 32 | Structure of ZnCl ₂ Melt. Part I: Raman Spectroscopy Analysis Driven by Ab Initio Methods. <i>Journal of Physical Chemistry B</i> , 2016, 120, 4174-4181. | 1.2 | 20 |
| 33 | Second-order sound field during megasonic cleaning of patterned silicon wafers: Application to ridges and trenches. <i>Journal of Applied Physics</i> , 2001, 90, 4211-4218. | 1.1 | 18 |
| 34 | Molecular dynamics of magnetic particulate dispersions. <i>Journal of Applied Physics</i> , 1994, 75, 5571-5573. | 1.1 | 17 |
| 35 | Concurrent multiscale model of an atomic crystal coupled with elastic continua. <i>Physical Review B</i> , 2002, 66, . | 1.1 | 17 |
| 36 | Geometric phase and topology of elastic oscillations and vibrations in model systems: Harmonic oscillator and superlattice. <i>AIP Advances</i> , 2016, 6, . | 0.6 | 17 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Experimental evidence of zero-angle refraction and acoustic wave-phase control in a two-dimensional solid/solid phononic crystal. <i>Physical Review B</i> , 2012, 86, . | 1.1 | 16 |
| 38 | The sound of Bell states. <i>Communications Physics</i> , 2019, 2, . | 2.0 | 16 |
| 39 | Sono-electrochemical recovery of metal ions from their aqueous solutions. <i>Journal of Hazardous Materials</i> , 2016, 318, 379-387. | 6.5 | 14 |
| 40 | Tailoring phonon band structures with broken symmetry by shaping spatiotemporal modulations of stiffness in a one-dimensional elastic waveguide. <i>Physical Review B</i> , 2017, 96, . | 1.1 | 14 |
| 41 | Effect of tubulin diffusion on polymerization of microtubules. <i>Physical Review E</i> , 2005, 72, 021906. | 0.8 | 13 |
| 42 | Compressed-air energy storage systems for stand-alone off-grid photovoltaic modules. , 2010, , . | | 13 |
| 43 | Multifunctional solid/solid phononic crystal. <i>Journal of Applied Physics</i> , 2012, 112, 024514. | 1.1 | 12 |
| 44 | Optically tunable acoustic wave band-pass filter. <i>AIP Advances</i> , 2014, 4, . | 0.6 | 12 |
| 45 | Elastic waves with correlated directional and orbital angular momentum degrees of freedom. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 135301. | 0.6 | 12 |
| 46 | Experimental demonstration of coherent superpositions in an ultrasonic pseudospin. <i>Scientific Reports</i> , 2019, 9, 14156. | 1.6 | 12 |
| 47 | A high-resolution electron microscopy study of secondary dislocations in $\hat{\epsilon} = 3$, $[\hat{A}\hat{A}10]\hat{A}^{\circ}$ ($\hat{A}\hat{A}1$) grain boundaries of aluminium. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1991, 64, 245-253. | 0.7 | 11 |
| 48 | The atomic structure of a $[100]$, $45\hat{A}^{\circ}$ twist plus $17.5\hat{A}^{\circ}$ tilt grain boundary in aluminium by high-resolution electron microscopy. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1991, 64, 719-733. | 0.7 | 11 |
| 49 | Effect of Long-Range and Steric Hydrophilic Interactions on Micellization of Surfactant Solutions: A Monte Carlo Study in 2-D. <i>Langmuir</i> , 2002, 18, 3728-3736. | 1.6 | 11 |
| 50 | Spectral analysis of amplitudes and phases of elastic waves: Application to topological elasticity. <i>Journal of the Acoustical Society of America</i> , 2019, 146, 748-766. | 0.5 | 11 |
| 51 | Experimental demonstration of elastic analogues of nonseparable qutrits. <i>Applied Physics Letters</i> , 2020, 116, . | 1.5 | 11 |
| 52 | Phase-control in two-dimensional phononic crystals. <i>Journal of Applied Physics</i> , 2011, 110, . | 1.1 | 10 |
| 53 | Propagation of Acoustic Waves in Periodic and Random Two-dimensional Composite Media. <i>Journal of Materials Research</i> , 1997, 12, 2207-2212. | 1.2 | 9 |
| 54 | Experimental classical entanglement in a 16 acoustic qubit-analogue. <i>Scientific Reports</i> , 2021, 11, 24248. | 1.6 | 9 |

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|----|--|-----|-----------|
| 55 | Calculation of free energies of Lennard-Jones crystals via molecular dynamics. Journal of Chemical Physics, 1986, 85, 2937-2942. | 1.2 | 8 |
| 56 | Nucleation and Growth of Microtubules from β -Tubulin-Functionalized Gold Surfaces. Biotechnology Progress, 2006, 22, 303-312. | 1.3 | 8 |
| 57 | Geometric phase invariance in spatiotemporal modulated elastic system. Journal of Sound and Vibration, 2019, 459, 114843. | 2.1 | 8 |
| 58 | Experimental evidence for a structural unit model of quasiperiodic grain boundaries in aluminum. Journal of Materials Research, 1991, 6, 1461-1468. | 1.2 | 7 |
| 59 | The atomic structure of a $\Sigma=5$ [001]/(310) grain-boundary in an Al-5% Mg alloy by high-resolution electron microscopy. Journal of Materials Science, 1996, 3, 227. | 1.2 | 7 |
| 60 | Exponentially Complex α -Classically Entangled States in Arrays of One-Dimensional Nonlinear Elastic Waveguides. Materials, 2019, 12, 3553. | 1.3 | 7 |
| 61 | A Perspective on Multi-scale Simulation: Toward Understanding Water-silica. Journal of Computer-Aided Materials Design, 2006, 13, 1-12. | 0.7 | 6 |
| 62 | Phonon-magnon resonant processes with relevance to acoustic spin pumping. Physical Review B, 2014, 90, . | 1.1 | 6 |
| 63 | An atomic scale characterization of coupled grain boundary motion in silicon bicrystals. Philosophical Magazine, 2015, 95, 4118-4129. | 0.7 | 6 |
| 64 | Spacetime representation of topological phononics. New Journal of Physics, 2018, 20, 053005. | 1.2 | 6 |
| 65 | Topological acoustic sensing of spatial patterns of trees in a model forest landscape. Ecological Modelling, 2020, 419, 108964. | 1.2 | 6 |
| 66 | Metallization of nanobiostructures: a theoretical study of copper nanowires growth in microtubules. Journal of Materials Chemistry, 2006, 16, 4649. | 6.7 | 5 |
| 67 | Architecture-dependent signal conduction in model networks of endothelial cells. Physical Review E, 2010, 81, 041915. | 0.8 | 5 |
| 68 | Asymmetric energy transport in defected boron nitride nanoribbons: Implications for thermal rectification. AIP Advances, 2011, 1, . | 0.6 | 5 |
| 69 | Nonlinear Phonon Modes in Second-Order Anharmonic Coupled Monoatomic Chains. Journal of Vibration and Acoustics, Transactions of the ASME, 2016, 138, . | 1.0 | 5 |
| 70 | Non-separable states in a bipartite elastic system. AIP Advances, 2017, 7, . | 0.6 | 5 |
| 71 | Directional Elastic Pseudospin and Nonseparability of Directional and Spatial Degrees of Freedom in Parallel Arrays of Coupled Waveguides. Applied Sciences (Switzerland), 2020, 10, 3202. | 1.3 | 5 |
| 72 | Exponentially complex nonseparable states in planar arrays of nonlinearly coupled one-dimensional elastic waveguides. Journal of Physics Communications, 2020, 4, 085018. | 0.5 | 5 |

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|----|--|-----|-----------|
| 73 | Class formation in simple ionic systems via constant pressure molecular dynamics. Journal of Chemical Physics, 1989, 90, 7384-7394. | 1.2 | 3 |
| 74 | Molecular dynamics simulations of some amorphous and crystalline photonic materials. Journal of Materials Research, 1990, 5, 1104-1109. | 1.2 | 3 |
| 75 | Study of Bubble Activity in a Megasonic Field Using an Electrochemical Technique. IEEE Transactions on Semiconductor Manufacturing, 2011, 24, 513-518. | 1.4 | 3 |
| 76 | Multi-phonon scattering processes in one-dimensional anharmonic biological superlattices: Understanding the dissipation of mechanical waves in mineralized tissues. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 37, 24-32. | 1.5 | 3 |
| 77 | Effect of Ligand Adsorption on the Electronic Properties of the PbS(100) Surface. Langmuir, 2020, 36, 13312-13319. | 1.6 | 3 |
| 78 | Navigating the Hilbert space of elastic bell states in driven coupled waveguides. Wave Motion, 2022, , 102966. | 1.0 | 3 |
| 79 | Temperature-controlled spatiotemporally modulated phononic crystal for achieving nonreciprocal acoustic wave propagation. Journal of the Acoustical Society of America, 2022, 151, 3669-3675. | 0.5 | 3 |
| 80 | Selection of domains for coarse and fine levels of description in mixed-potential simulations. Journal of Computer-Aided Materials Design, 2006, 13, 17-44. | 0.7 | 2 |
| 81 | Calcium wave propagation in chains of endothelial cells with nonlinear reaction dynamics: Greenâ€™s function approach. Physical Review E, 2010, 82, 041913. | 0.8 | 2 |
| 82 | Energetics of substituted polyhedral oligomeric silsesquioxanes: a DFT study. MRS Communications, 2015, 5, 519-524. | 0.8 | 2 |
| 83 | Giant frequency down-conversion of the dancing acoustic bubble. Scientific Reports, 2016, 6, 37385. | 1.6 | 2 |
| 84 | Phase properties of elastic waves in systems constituted of adsorbed diatomic molecules on the (001) surface of a simple cubic crystal. Journal of Applied Physics, 2018, 123, 125106. | 1.1 | 2 |
| 85 | Finite elements computational modeling of coupled elastic waveguides. Journal of Applied Physics, 2020, 128, . | 1.1 | 2 |
| 86 | Navigating the Hilbert space of nonseparable elastic states in arrays of periodically coupled one-dimensional waveguides. AIP Advances, 2020, 10, 095105. | 0.6 | 2 |
| 87 | Origin of photoelastic phenomena in Ge-Se network glasses. Physical Review B, 2021, 104, . | 1.1 | 2 |
| 88 | Implementation of Deutsch and Deutschâ€™Jozsa-like algorithms involving classical entanglement of elastic bits. Wave Motion, 2022, 113, 102977. | 1.0 | 2 |
| 89 | Multiscale Modeling of Wave Propagation: FDTD/MD Hybrid Method. Materials Research Society Symposia Proceedings, 2002, 731, 471. | 0.1 | 1 |
| 90 | Implementation of consistent embedding for a larger systemâ€™Amorphous silica. Journal of Computer-Aided Materials Design, 2006, 13, 61-73. | 0.7 | 1 |

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|----|--|-----|-----------|
| 91 | Effect of sound on gap-junction-based intercellular signaling: Calcium waves under acoustic irradiation. <i>Physical Review E</i> , 2015, 92, 052711. | 0.8 | 1 |
| 92 | Evidence for hidden order in a nonlinear model elastic system. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 10LT01. | 0.7 | 1 |
| 93 | Topological properties of coupled one-dimensional chains of elastic rotators. <i>Journal of Applied Physics</i> , 2021, 129, 084903. | 1.1 | 1 |
| 94 | Molecular Dynamics Simulation of a $\hat{\alpha} = 5$ Aluminum Bicrystal. <i>Materials Research Society Symposia Proceedings</i> , 1988, 122, 125. | 0.1 | 0 |
| 95 | HREm Study of Al-Si Interfaces. <i>Materials Research Society Symposia Proceedings</i> , 1990, 209, 649. | 0.1 | 0 |
| 96 | Atomic Structure of 66° [110] Asymmetric Tilt Grain Boundary in Aluminum. <i>Materials Research Society Symposia Proceedings</i> , 1996, 466, 139. | 0.1 | 0 |
| 97 | The Role of Aluminum Substitution on the Stability of Substituted Polyhedral Oligomeric Silsesquioxanes. <i>Zeitschrift Fur Physikalische Chemie</i> , 2016, 230, 1005-1014. | 1.4 | 0 |
| 98 | Revealing topological attributes of stiff plates by Dirac factorization of their 2D elastic wave equation. <i>Applied Physics Letters</i> , 2022, 120, 081701. | 1.5 | 0 |