

William T M Irvine

List of Publications by Year in descending order

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Version: 2024-02-01

50
papers

5,146
citations

136950

32
h-index

182427

51
g-index

54
all docs

54
docs citations

54
times ranked

5179
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Lock and key colloids. <i>Nature</i> , 2010, 464, 575-578. | 27.8 | 699 |
| 2 | Topological mechanics of gyroscopic metamaterials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 14495-14500. | 7.1 | 611 |
| 3 | Cubic crystals from cubic colloids. <i>Soft Matter</i> , 2011, 7, 4139-4142. | 2.7 | 316 |
| 4 | Creation and dynamics of knotted vortices. <i>Nature Physics</i> , 2013, 9, 253-258. | 16.7 | 304 |
| 5 | Pleats in crystals on curved surfaces. <i>Nature</i> , 2010, 468, 947-951. | 27.8 | 293 |
| 6 | Robust Long-Distance Entanglement and a Loophole-Free Bell Test with Ions and Photons. <i>Physical Review Letters</i> , 2003, 91, 110405. | 7.8 | 289 |
| 7 | Amorphous topological insulators constructed from random point sets. <i>Nature Physics</i> , 2018, 14, 380-385. | 16.7 | 208 |
| 8 | The odd free surface flows of a colloidal chiral fluid. <i>Nature Physics</i> , 2019, 15, 1188-1194. | 16.7 | 174 |
| 9 | Linked and knotted beams of light. <i>Nature Physics</i> , 2008, 4, 716-720. | 16.7 | 158 |
| 10 | Odd elasticity. <i>Nature Physics</i> , 2020, 16, 475-480. | 16.7 | 142 |
| 11 | Tying Knots in Light Fields. <i>Physical Review Letters</i> , 2013, 111, 150404. | 7.8 | 139 |
| 12 | Strong coupling through optical positioning of a quantum dot in a photonic crystal cavity. <i>Applied Physics Letters</i> , 2009, 94, . | 3.3 | 112 |
| 13 | Spatiotemporal order and emergent edge currents in active spinner materials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 12919-12924. | 7.1 | 111 |
| 14 | Shape-sensitive crystallization in colloidal superball fluids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 5286-5290. | 7.1 | 108 |
| 15 | Non-Hermitian Band Topology and Skin Modes in Active Elastic Media. <i>Physical Review Letters</i> , 2020, 125, 118001. | 7.8 | 107 |
| 16 | Lock and key colloids through polymerization-induced buckling of monodisperse silicon oil droplets. <i>Soft Matter</i> , 2011, 7, 1631-1634. | 2.7 | 103 |
| 17 | Complete measurement of helicity and its dynamics in vortex tubes. <i>Science</i> , 2017, 357, 487-491. | 12.6 | 102 |
| 18 | Fractionalization of interstitials in curved colloidal crystals. <i>Nature Materials</i> , 2012, 11, 948-951. | 27.5 | 91 |

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|----|---|------|-----------|
| 19 | How superfluid vortex knots untie. <i>Nature Physics</i> , 2016, 12, 650-655. | 16.7 | 87 |
| 20 | Helicity conservation by flow across scales in reconnecting vortex links and knots. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 15350-15355. | 7.1 | 85 |
| 21 | Optimal Quantum Cloning on a Beam Splitter. <i>Physical Review Letters</i> , 2004, 92, 047902. | 7.8 | 74 |
| 22 | High Finesse Opto-Mechanical Cavity with a Movable Thirty-Micron-Size Mirror. <i>Physical Review Letters</i> , 2006, 96, 173901. | 7.8 | 60 |
| 23 | Fracture in sheets draped on curved surfaces. <i>Nature Materials</i> , 2017, 16, 89-93. | 27.5 | 59 |
| 24 | Strong Coupling between Single Photons in Semiconductor Microcavities. <i>Physical Review Letters</i> , 2006, 96, 057405. | 7.8 | 58 |
| 25 | Dislocation reactions, grain boundaries, and irreversibility in two-dimensional lattices using topological tweezers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 15544-15548. | 7.1 | 57 |
| 26 | Self-organization in dipolar cube fluids constrained by competing anisotropies. <i>Soft Matter</i> , 2018, 14, 1080-1087. | 2.7 | 52 |
| 27 | Nonlinear Photonic Crystals as a Source of Entangled Photons. <i>Physical Review Letters</i> , 2004, 93, 040504. | 7.8 | 49 |
| 28 | Diffraction-limited high-finesse optical cavities. <i>Physical Review A</i> , 2010, 81, . | 2.5 | 48 |
| 29 | Soft epitaxy of nanocrystal superlattices. <i>Nature Communications</i> , 2014, 5, 5045. | 12.8 | 40 |
| 30 | Linked and knotted beams of light, conservation of helicity and the flow of null electromagnetic fields. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 385203. | 2.1 | 39 |
| 31 | Weaving Knotted Vector Fields with Tunable Helicity. <i>Physical Review Letters</i> , 2016, 117, 274501. | 7.8 | 37 |
| 32 | Motile dislocations knead odd crystals into whorls. <i>Nature Physics</i> , 2022, 18, 212-218. | 16.7 | 35 |
| 33 | Tunable band topology in gyroscopic lattices. <i>Physical Review B</i> , 2018, 98, . | 3.2 | 32 |
| 34 | Orientation-Dependent Handedness and Chiral Design. <i>Physical Review X</i> , 2014, 4, . | 8.9 | 31 |
| 35 | Transmembrane transport in inorganic colloidal cell-mimics. <i>Nature</i> , 2021, 597, 220-224. | 27.8 | 29 |
| 36 | Realization of Hardy's Thought Experiment with Photons. <i>Physical Review Letters</i> , 2005, 95, 030401. | 7.8 | 27 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 37 | Realization of a topological phase transition in a gyroscopic lattice. <i>Physical Review B</i> , 2018, 97, . | 3.2 | 26 |
| 38 | Bloch theory of entangled photon generation in nonlinear photonic crystals. <i>Physical Review A</i> , 2005, 72, . | 2.5 | 19 |
| 39 | Polychromatic Photonic Quasicrystal Cavities. <i>Physical Review Letters</i> , 2010, 104, 243901. | 7.8 | 18 |
| 40 | Geometric background charge: dislocations on capillary bridges. <i>Soft Matter</i> , 2012, 8, 10123. | 2.7 | 17 |
| 41 | Emergent Geometry of Inhomogeneous Planar Crystals. <i>Physical Review X</i> , 2018, 8, . | 8.9 | 16 |
| 42 | Tangled loops and knots. <i>Nature Materials</i> , 2014, 13, 229-231. | 27.5 | 13 |
| 43 | Helicity in superfluids: Existence and the classical limit. <i>Physical Review Fluids</i> , 2018, 3, . | 2.5 | 12 |
| 44 | Starting Flow Past an Airfoil and its Acquired Lift in a Superfluid. <i>Physical Review Letters</i> , 2019, 123, 154502. | 7.8 | 11 |
| 45 | When do knots in light stay knotted?. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 025204. | 2.1 | 8 |
| 46 | Real-space origin of topological band gaps, localization, and reentrant phase transitions in gyroscopic metamaterials. <i>Physical Review E</i> , 2021, 104, 025007. | 2.1 | 8 |
| 47 | The geometry and topology of soft materials. <i>Soft Matter</i> , 2013, 9, 8086. | 2.7 | 7 |
| 48 | Rectification in Nonequilibrium Parity Violating Metamaterials. <i>Physical Review X</i> , 2020, 10, . | 8.9 | 7 |
| 49 | Spatters and spills: Spreading dynamics for partially wetting droplets. <i>Physics of Fluids</i> , 2022, 34, 012112. | 4.0 | 3 |
| 50 | Numerical Investigation of the Stability of Straight Twisted Vortices. , 2021, , . | | 0 |