

Eric J Heller

List of Publications by Year in descending order

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Version: 2024-02-01

62
papers

5,977
citations

257101

24
h-index

133063

59
g-index

62
all docs

62
docs citations

62
times ranked

2759
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Bound-State Eigenfunctions of Classically Chaotic Hamiltonian Systems: Scars of Periodic Orbits. <i>Physical Review Letters</i> , 1984, 53, 1515-1518. | 2.9 | 1,269 |
| 2 | Simple aspects of Raman scattering. <i>The Journal of Physical Chemistry</i> , 1982, 86, 1822-1833. | 2.9 | 611 |
| 3 | Quantum corrections to classical photodissociation models. <i>Journal of Chemical Physics</i> , 1978, 68, 2066-2075. | 1.2 | 606 |
| 4 | Wigner phase space method: Analysis for semiclassical applications. <i>Journal of Chemical Physics</i> , 1976, 65, 1289-1298. | 1.2 | 420 |
| 5 | Polyatomic Raman scattering for general harmonic potentials. <i>Journal of Chemical Physics</i> , 1982, 77, 202-218. | 1.2 | 405 |
| 6 | Photofragmentation of symmetric triatomic molecules: Time dependent picture. <i>Journal of Chemical Physics</i> , 1978, 68, 3891-3896. | 1.2 | 327 |
| 7 | Exact time-dependent wave packet propagation: Application to the photodissociation of methyl iodide. <i>Journal of Chemical Physics</i> , 1982, 76, 3035-3044. | 1.2 | 266 |
| 8 | Semiclassical Gaussian basis set method for molecular vibrational wave functions. <i>Journal of Chemical Physics</i> , 1979, 71, 3383-3395. | 1.2 | 240 |
| 9 | Excited state geometry changes from preresonance Raman intensities: Isoprene and hexatriene. <i>Journal of Chemical Physics</i> , 1982, 77, 3857-3866. | 1.2 | 203 |
| 10 | Classical matrix limit of wave packet dynamics. <i>Journal of Chemical Physics</i> , 1976, 65, 4979-4989. | 1.2 | 181 |
| 11 | Molecular spectra, Fermi resonances, and classical motion. <i>Journal of Chemical Physics</i> , 1980, 73, 4720-4735. | 1.2 | 169 |
| 12 | Classical trajectory approach to photodissociation: The Wigner method. <i>Journal of Chemical Physics</i> , 1981, 75, 186-188. | 1.2 | 145 |
| 13 | Quantum intramolecular dynamics: Criteria for stochastic and nonstochastic flow. <i>Journal of Chemical Physics</i> , 1980, 72, 1337-1347. | 1.2 | 141 |
| 14 | Phase space interpretation of semiclassical theory. <i>Journal of Chemical Physics</i> , 1977, 67, 3339-3351. | 1.2 | 135 |
| 15 | Theory of Graphene Raman Scattering. <i>ACS Nano</i> , 2016, 10, 2803-2818. | 7.3 | 94 |
| 16 | Multidimensional wave functions from classical trajectories. <i>Journal of Chemical Physics</i> , 1981, 75, 3916-3924. | 1.2 | 92 |
| 17 | Scattering Theory of Kondo Mirages and Observation of Single Kondo Atom Phase Shift. <i>Physical Review Letters</i> , 2001, 86, 2392-2395. | 2.9 | 85 |
| 18 | Semiclassical theory of coherence and decoherence. <i>Physical Review A</i> , 2003, 68, . | 1.0 | 55 |

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|----|---|-----|-----------|
| 19 | Generalized theory of semiclassical amplitudes. <i>Journal of Chemical Physics</i> , 1977, 66, 5777-5785. | 1.2 | 45 |
| 20 | Normal mode spectra in pure local mode molecules. <i>Journal of Chemical Physics</i> , 1980, 73, 626-628. | 1.2 | 33 |
| 21 | Errors in the Wigner approach to quantum dynamics. <i>Journal of Chemical Physics</i> , 1981, 75, 1048-1050. | 1.2 | 33 |
| 22 | Molecular spectra, Fermi resonances, and classical motion: Example of CO ₂ . <i>Journal of Chemical Physics</i> , 1979, 71, 4759-4760. | 1.2 | 30 |
| 23 | Imaging and manipulating electrons in a one-dimensional quantum dot with Coulomb blockade microscopy. <i>Physical Review B</i> , 2010, 81, . | 1.1 | 28 |
| 24 | Multiple-scattering theory for two-dimensional electron gases in the presence of spin-orbit coupling. <i>Physical Review B</i> , 2006, 73, . | 1.1 | 25 |
| 25 | Similarity transformed semiclassical dynamics. <i>Journal of Chemical Physics</i> , 2003, 119, 12153-12162. | 1.2 | 24 |
| 26 | Strong quantum scarring by local impurities. <i>Scientific Reports</i> , 2016, 6, 37656. | 1.6 | 24 |
| 27 | Stability of Branched Flow from a Quantum Point Contact. <i>Physical Review Letters</i> , 2013, 111, 236804. | 2.9 | 20 |
| 28 | Raman Scattering in Carbon Nanosystems: Solving Polyacetylene. <i>ACS Central Science</i> , 2015, 1, 40-49. | 5.3 | 19 |
| 29 | Parametric evolution for a deformed cavity. <i>Physical Review E</i> , 2001, 63, 046207. | 0.8 | 18 |
| 30 | Branching and Fringing in Microstructure Electron Flow. <i>International Journal of Modern Physics B</i> , 2003, 17, 3977-3987. | 1.0 | 18 |
| 31 | Classical and quantum analysis of quasideviation in grazing atom-surface collisions. <i>Physical Review A</i> , 2009, 79, . | 1.0 | 16 |
| 32 | Ballistic versus diffusive transport in graphene. <i>Physical Review B</i> , 2013, 88, . | 1.1 | 16 |
| 33 | Characterizing Time Irreversibility in Disordered Fermionic Systems by the Effect of Local Perturbations. <i>Physical Review Letters</i> , 2017, 119, 016802. | 2.9 | 15 |
| 34 | Self-consistent calculation of electric potentials in Hall devices. <i>Physical Review B</i> , 2010, 81, . | 1.1 | 14 |
| 35 | Optimal local control of coherent dynamics in custom-made nanostructures. <i>Physical Review B</i> , 2013, 87, . | 1.1 | 14 |
| 36 | Theory of the quantum Hall effect in finite graphene devices. <i>Physical Review B</i> , 2010, 81, . | 1.1 | 13 |

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|----|--|------|-----------|
| 37 | Quasiresonance. <i>Molecular Physics</i> , 2006, 104, 127-145. | 0.8 | 10 |
| 38 | Collision dynamics of polyatomic molecules containing carbon rings at low temperatures. <i>Journal of Chemical Physics</i> , 2014, 141, 104317. | 1.2 | 10 |
| 39 | Reassessing Graphene Absorption and Emission Spectroscopy. <i>Nano Letters</i> , 2017, 17, 6077-6082. | 4.5 | 10 |
| 40 | Semiclassical deconstruction of quantum states in graphene. <i>Physical Review B</i> , 2013, 88, . | 1.1 | 9 |
| 41 | Air juggling and other tricks. <i>Nature</i> , 2001, 412, 33-34. | 13.7 | 8 |
| 42 | Optimal control of quantum revival. <i>European Physical Journal B</i> , 2013, 86, 1. | 0.6 | 8 |
| 43 | Dust and gas emission from cometary nuclei: the case of comet 67P/Churyumovâ€“Gerasimenko. <i>Advances in Physics: X</i> , 2018, 3, 1404436. | 1.5 | 8 |
| 44 | Lazy electrons in graphene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 18316-18321. | 3.3 | 7 |
| 45 | Electron wrangling in quantum corrals. <i>Nature Physics</i> , 2008, 4, 443-444. | 6.5 | 6 |
| 46 | Communication: HK propagator uniformized along a one-dimensional manifold in weakly anharmonic systems. <i>Journal of Chemical Physics</i> , 2014, 141, 181102. | 1.2 | 6 |
| 47 | Semiclassical Quantization Using Invariant Tori: A Gradient-Descent Approach. <i>Journal of Physical Chemistry A</i> , 2001, 105, 2803-2813. | 1.1 | 5 |
| 48 | SchrÃ¶dinger Correspondence Applied to Crystals. <i>Journal of Physical Chemistry A</i> , 2019, 123, 4379-4388. | 1.1 | 5 |
| 49 | Propagation of waves in high Brillouin zones: Chaotic branched flow and stable superwires. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, . | 3.3 | 5 |
| 50 | A Perturbative Approach to Vibrational Predissociation Rates: Application to ArHF. <i>Journal of Physical Chemistry B</i> , 2002, 106, 8100-8107. | 1.2 | 4 |
| 51 | Investigating interaction-induced chaos using time-dependent density-functional theory. <i>Physical Review A</i> , 2008, 77, . | 1.0 | 4 |
| 52 | Inflationary dynamics for matrix eigenvalue problems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 7631-7635. | 3.3 | 4 |
| 53 | Reducing anomalous reflection from complex absorbing potentials: A semiclassical approach. <i>Physical Review A</i> , 2021, 103, . | 1.0 | 4 |
| 54 | Bragg Scattering from a Random Potential. <i>Physical Review Letters</i> , 2022, 128, . | 2.9 | 4 |

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|----|---|------|-----------|
| 55 | Statistical properties of eigenstates beyond random matrix theory. <i>Molecular Physics</i> , 2006, 104, 1207-1216. | 0.8 | 3 |
| 56 | Directed HK propagator. <i>Journal of Chemical Physics</i> , 2015, 143, 124102. | 1.2 | 3 |
| 57 | Electrons in the looking glass. <i>Nature</i> , 2000, 403, 489-491. | 13.7 | 2 |
| 58 | The momentum of models. <i>Journal of Chemical Physics</i> , 2021, 155, 170902. | 1.2 | 2 |
| 59 | Periodic orbit scar in wavepacket propagation. <i>International Journal of Modern Physics C</i> , 2019, 30, 1950026. | 0.8 | 1 |
| 60 | COHERENT STATES, CHAOS, AND INFORMATION. , 1994, , . | | 0 |
| 61 | Determination of bound-free dissociative couplings via classical Fourier coefficients. <i>Journal of Chemical Physics</i> , 2002, 117, 9574-9579. | 1.2 | 0 |
| 62 | Comment on "Screening model of metallic nonideal contacts in the integer quantized Hall regime". <i>Physical Review B</i> , 2011, 84, . | 1.1 | 0 |