Eric C Le Ru

List of Publications by Year
in descending order

82 papers	7,005 citations	126907 33 h-index	62596 80 g-index
84 all docs	84 docs citations	84 times ranked	7720 citing authors

#	Article	IF	Citations
1	Present and Future of Surface-Enhanced Raman Scattering. ACS Nano, 2020, 14, 28-117.	14.6	2,153
2	Single-Molecule Surface-Enhanced Raman Spectroscopy. Annual Review of Physical Chemistry, 2012, 63, 65-87.	10.8	632
3	Single-Molecule Surface-Enhanced Raman Spectroscopy of Nonresonant Molecules. Journal of the American Chemical Society, 2009, 131, 14466-14472.	13.7	426
4	Rigorous justification of the |E|4 enhancement factor in Surface Enhanced Raman Spectroscopy. Chemical Physics Letters, 2006, 423, 63-66.	2.6	349
5	Enhancement factor distribution around a single surface-enhanced Raman scattering hot spot and its relation to single molecule detection. Journal of Chemical Physics, 2006, 125, 204701.	3.0	334
6	Quantifying SERS enhancements. MRS Bulletin, 2013, 38, 631-640.	3.5	214
7	A Scheme for Detecting Every Single Target Molecule with Surface-Enhanced Raman Spectroscopy. Nano Letters, 2011, 11, 5013-5019.	9.1	173
8	Advanced aspects of electromagnetic SERS enhancement factors at a hot spot. Journal of Raman Spectroscopy, 2008, 39, 1127-1134.	2.5	166
9	Direct radiative effects of airborne microplastics. Nature, 2021, 598, 462-467.	27.8	152
10	On the connection between optical absorption/extinction and SERS enhancements. Physical Chemistry Chemical Physics, 2006, 8, 3083.	2.8	121
11	Monitoring the Electrochemistry of Single Molecules by Surface-Enhanced Raman Spectroscopy. Journal of the American Chemical Society, 2010, 132, 18034-18037.	13.7	121
12	Modified optical absorption of molecules on metallic nanoparticles at sub-monolayer coverage. Nature Photonics, 2016, 10, 40-45.	31.4	115
13	Ultrafast Nonradiative Decay Rates on Metallic Surfaces by Comparing Surface-Enhanced Raman and Fluorescence Signals of Single Molecules. Physical Review Letters, 2009, 103, 063003.	7.8	114
14	Combining Surface Plasmon Resonance (SPR) Spectroscopy with Surface-Enhanced Raman Scattering (SERS). Analytical Chemistry, 2011, 83, 2337-2344.	6.5	109
15	Experimental demonstration of surface selection rules for SERS on flat metallic surfaces. Chemical Communications, 2011, 47, 3903.	4.1	104
16	Investigation of particle shape and size effects in SERS using T-matrix calculations. Physical Chemistry Chemical Physics, 2009, 11, 7398.	2.8	95
17	Surface enhanced Raman spectroscopy on nanolithography-prepared substrates. Current Applied Physics, 2008, 8, 467-470.	2.4	87
18	Resolving Single Molecules in Surface-Enhanced Raman Scattering within the Inhomogeneous Broadening of Raman Peaks. Analytical Chemistry, 2010, 82, 2888-2892.	6.5	81

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19	Silver Nanoparticle Aggregates as Highly Efficient Plasmonic Antennas for Fluorescence Enhancement. Journal of Physical Chemistry C, 2012, 116, 16687-16693.	3.1	77
20	Quantifying Resonant Raman Cross Sections with SERS. Journal of Physical Chemistry A, 2010, 114, 5515-5519.	2.5	75
21	Competition between Molecular Adsorption and Diffusion: Dramatic Consequences for SERS in Colloidal Solutions. Journal of the American Chemical Society, 2014, 136, 10965-10973.	13.7	71
22	Strong Correlation between Molecular Configurations and Charge-Transfer Processes Probed at the Single-Molecule Level by Surface-Enhanced Raman Scattering. Journal of the American Chemical Society, 2013, 135, 2809-2815.	13.7	68
23	Fluorescence enhancement at hot-spots: the case of Ag nanoparticle aggregates. Physical Chemistry Chemical Physics, 2011, 13, 16366.	2.8	64
24	Evidence of Natural Isotopic Distribution from Single-Molecule SERS. Journal of the American Chemical Society, 2009, 131, 2713-2716.	13.7	61
25	Sub-wavelength localization of hot-spots in SERS. Chemical Physics Letters, 2004, 396, 393-397.	2.6	56
26	Phenomenological local field enhancement factor distributions around electromagnetic hot spots. Journal of Chemical Physics, 2009, 130, 181101.	3.0	55
27	Direct Measurement of Resonance Raman Spectra and Cross Sections by a Polarization Difference Technique. Analytical Chemistry, 2012, 84, 5074-5079.	6.5	43
28	Combined SPR and SERS Microscopy in the Kretschmann Configuration. Journal of Physical Chemistry A, 2012, 116, 1000-1007.	2.5	43
29	Radiative correction in approximate treatments of electromagnetic scattering by point and body scatterers. Physical Review A, 2013, 87, .	2.5	43
30	Simple accurate approximations for the optical properties of metallic nanospheres and nanoshells. Physical Chemistry Chemical Physics, 2013, 15, 4233.	2.8	41
31	Cristobalite in the 2011â€“2012 CordÃ³n Caulle eruption (Chile). Bulletin of Volcanology, 2015, 77, 1.	3.0	38
32	Reexamination of Surface-Enhanced Raman Scattering from Gold Nanorods as a Function of Aspect Ratio and Shape. Journal of Physical Chemistry C, 2020, 124, 10647-10658.	3.1	38
33	Temperature Dependence of the Homogeneous Broadening of Resonant Raman Peaks Measured by Single-Molecule Surface-Enhanced Raman Spectroscopy. Journal of Physical Chemistry Letters, 2011, 2, 3002-3005.	4.6	36
34	Vibrational pumping and heating under SERS conditions: fact or myth?. Faraday Discussions, 2006, 132, 63-75.	3.2	33
35	Estimating the Raman Cross Sections of Single Carbon Nanotubes. ACS Nano, 2010, 4, 3466-3470.	14.6	33
36	Bi-analyte single molecule SERS technique with simultaneous spatial resolution. Physical Chemistry Chemical Physics, 2011, 13, 4500.	2.8	31

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37	Electrochemical Modulation for Signal Discrimination in Surface Enhanced Raman Scattering (SERS). Analytical Chemistry, 2010, 82, 6919-6925.	6.5	29
38	Accurate Modeling of the Polarizability of Dyes for Electromagnetic Calculations. ACS Omega, 2017, 2, 1804-1811.	3.5	27
39	Single-molecule SERS detection of C60. Physical Chemistry Chemical Physics, 2012, 14, 3219.	2.8	26
40	Combined Extinction and Absorption UVâ€“Visible Spectroscopy as a Method for Revealing Shape Imperfections of Metallic Nanoparticles. Analytical Chemistry, 2019, 91, 14639-14648.	6.5	26
41	Convergence of Mie theory series: criteria for far-field and near-field properties. Applied Optics, 2014, 53, 7224.	2.1	24
42	A Statistical Criterion for Evaluating the Single-Molecule Character of SERS Signals. Journal of Physical Chemistry C, 2010, 114, 7330-7335.	3.1	21
43	Single-molecule surface-enhanced Raman spectroscopy with nanowatt excitation. Physical Chemistry Chemical Physics, 2014, 16, 23895-23899.	2.8	21
44	Mode structure and ray dynamics of a parabolic dome microcavity. Physical Review E, 2000, 62, 8677-8699.	2.1	18
45	Numerical investigation of the Rayleigh hypothesis for electromagnetic scattering by a particle. Journal of Optics (United Kingdom), 2016, 18, 075007.	2.2	18
46	Simplified expressions of the T-matrix integrals for electromagnetic scattering. Optics Letters, 2011, 36, 3482.	3.3	17
47	CW measurements of resonance Raman profiles, lineâ€widths, and crossâ€sections of fluorescent dyes: application to Nile Blue A in water and ethanol. Journal of Raman Spectroscopy, 2013, 44, 573-581.	2.5	17
48	Mind the gap: testing the Rayleigh hypothesis in T-matrix calculations with adjacent spheroids. Optics Express, 2019, 27, 35750.	3.4	17
49	Whispering-Gallery Mode Lasing in Perovskite Nanocrystals Chemically Bound to Silicon Dioxide Microspheres. Journal of Physical Chemistry Letters, 2020, 11, 7009-7014.	4.6	16
50	Strain engineered InAs/GaAs quantum dots for 1.5 Î¼m emitters. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 1221-1224.	0.8	15
51	Electromagnetic interactions of dye molecules surrounding a nanosphere. Nanoscale, 2019, 11, 12177-12187.	5.6	15
52	Practical Implementation of Accurate Finite-Element Calculations for Electromagnetic Scattering by Nanoparticles. Plasmonics, 2020, 15, 109-121.	3.4	15
53	Tiny Peaks vs Mega Backgrounds: A General Spectroscopic Method with Applications in Resonant Raman Scattering and Atmospheric Absorptions. Analytical Chemistry, 2012, 84, 7938-7945.	6.5	14
54	Extinction-to-Absorption Ratio for Sensitive Determination of the Size and Dielectric Function of Gold Nanoparticles. ACS Nano, 2020, 14, 17597-17605.	14.6	14

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55	Co-ordinated detection of microparticles using tunable resistive pulse sensing and fluorescence spectroscopy. Biomicrofluidics, 2015, 9, 014110.	2.4	13
56	Approximate <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>T</mml:mi></mml:math> matrix and optical properties of spheroidal particles to third order with respect to size parameter. Physical Review A, 2019, 99, .	2.5	13
57	Optical Absorption of Dye Molecules in a Spherical Shell Geometry. Journal of Physical Chemistry C, 2018, 122, 19110-19115.	3.1	12
58	Numerically stable formulation of Mie theory for an emitter close to a sphere. Applied Optics, 2020, 59, 1293.	1.8	12
59	Modeling Molecular Orientation Effects in Dye-Coated Nanostructures Using a Thin-Shell Approximation of Mie Theory for Radially Anisotropic Media. ACS Photonics, 2018, 5, 5002-5009.	6.6	10
60	Coadsorbed Species with Halide Ligands on Silver Nanoparticles with Different Binding Affinities. Journal of Physical Chemistry C, 2022, 126, 8692-8702.	3.1	10
61	Spheroidal harmonic expansions for the solution of Laplace's equation for a point source near a sphere. Physical Review E, 2017, 95, 033307.	2.1	9
62	Realistic ports in integrating spheres: reflectance, transmittance, and angular redirection. Applied Optics, 2018, 57, 1581.	1.8	9
63	Electrostatic limit of the T-matrix for electromagnetic scattering: Exact results for spheroidal particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 200, 50-58.	2.3	9
64	Mean path length inside nonscattering refractive objects. Physical Review A, 2021, 103, .	2.5	8
65	Polypeptide Multilayer Self-Assembly Studied by Ellipsometry. Journal of Drug Delivery, 2014, 2014, 1-5.	2.5	7
66	Anionâ€regulatedbinding selectivity of Cr(III) in collagen. Biopolymers, 2020, 111, e23406.	2.4	7
67	Analytical solutions for the surfaceâ€and orientationâ€averaged SERS enhancement factor of small plasmonic particles. Journal of Raman Spectroscopy, 2021, 52, 285-295.	2.5	7
68	Refined effective-medium model for the optical properties of nanoparticles coated with anisotropic molecules. Physical Review B, 2021, 103, .	3.2	6
69	Quasistatic limit of the electric-magnetic coupling blocks of the T-matrix for spheroids. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 225, 16-24.	2.3	5
70	Thin-shell approximation of Mie theory for a thin anisotropic layer spaced away from a spherical core: Application to dye-coated nanostructures. Physical Review A, 2021, 104, .	2.5	5
71	Surface-enhanced Raman scattering at a planar dielectric interface beyond critical angle. Optics Express, 2008, 16, 20117.	3.4	4
72	Comparison of dynamic corrections to the quasistatic polarizability and optical properties of small spheroidal particles. Journal of Chemical Physics, 2022, 156, 104110.	3.0	4

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73	Effect of Molecular Position and Orientation on Adsorbate-Induced Shifts of Plasmon Resonances. Journal of Physical Chemistry C, 2022, 126, 10129-10138.	3.1	4
74	SERS assertions addressed. Physics Today, 2008, 61, 13-14.	0.3	3
75	Quantifying Resonant Raman Cross Sections With SERS. , 2010, , .		3
76	Quantitative theory of integrating sphere throughput: comparison with experiments. Applied Optics, 2021, 60, 5335.	1.8	3
77	Photoluminescence characterization of InAs/GaAs quantum dot bilayers. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 88, 164-167.	3.5	2
78	Snapshots of vibrating molecules. Nature, 2019, 568, 36-37.	27.8	2
79	Influence of spin conservation on the carrier dynamics in InAs/GaAs quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 1201-1204.	0.8	1
80	New class of solutions to Laplace equation: Regularized multipoles of negative orders. Physical Review Research, 2019, 1, .	3.6	1
81	Distribution of the SERS enhancement factor on the surface of metallic nano-particles. , 2012, , .		0
82	Definition and properties of logopoles of all degrees and orders. Physical Review E, 2021, 103, 013311.	2.1	0