Sang-Kil Son

List of Publications by Year
in descending order

71 papers	2,790 citations	186265 28 h-index	175258 52 g-index
73 all docs	73 docs citations	73 times ranked	2291 citing authors

#	Article	IF	Citations
1	Nonlinear Atomic Response to Intense Ultrashort X Rays. Physical Review Letters, 2011, 106, 083002.	7.8	221
2	Ultra-efficient ionization of heavy atoms by intense X-ray free-electron laser pulses. Nature Photonics, 2012, 6, 858-865.	31.4	218
3	Impact of hollow-atom formation on coherent x-ray scattering at high intensity. Physical Review A, 2011, 83, .	2.5	168
4	Femtosecond response of polyatomic molecules to ultra-intense hard X-rays. Nature, 2017, 546, 129-132.	27.8	139
5	Deep Inner-Shell Multiphoton Ionization by Intense X-Ray Free-Electron Laser Pulses. Physical Review Letters, 2013, 110, 173005.	7.8	136
6	Unusual Ferromagnetic Couplings in Single End-to-End Azide-Bridged Cobalt(II) and Nickel(II) Chain Systems. Chemistry - A European Journal, 2001, 7, 4243-4252.	3.3	127
7	Femtosecond X-ray-induced explosion of C60 at extreme intensity. Nature Communications, 2014, 5, 4281.	12.8	119
8	Multiwavelength Anomalous Diffraction at High X-Ray Intensity. Physical Review Letters, 2011, 107, 218102.	7.8	107
9	High-Dimensional Manganese(II) Compounds with Noncovalent and/or Covalent Bonds Derived from Flexible Ligands:Â Self-Assembly and Structural Transformation. Inorganic Chemistry, 1999, 38, 5602-5610.	4.0	91
10	Spinâ€“orbit effects on the transactinidep-block element monohydrides MH (M=element 113â€“118). Journal of Chemical Physics, 2000, 112, 2684-2691.	3.0	85
11	Floquet formulation for the investigation of multiphoton quantum interference in a superconducting qubit driven by a strong ac field. Physical Review A, 2009, 79, .	2.5	73
12	XMDYNandXATOM: versatile simulation tools for quantitative modeling of X-ray free-electron laser induced dynamics of matter. Journal of Applied Crystallography, 2016, 49, 1048-1056.	4.5	73
13	Quantum-Mechanical Calculation of Ionization-Potential Lowering in Dense Plasmas. Physical Review X, 2014, 4, .	8.9	69
14	Multielectron effects on the orientation dependence and photoelectron angular distribution of multiphoton ionization of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CO</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msu strong laser fields. Physical Review A, 2009, 80, .	2.5	67
15	Monte Carlo calculation of ion, electron, and photon spectra of xenon atoms in x-ray free-electron laser pulses. Physical Review A, 2012, 85, .	2.5	65
16	Nanoplasma Formation by High Intensity Hard X-rays. Scientific Reports, 2015, 5, 10977.	3.3	60
17	Resonance-enhanced multiple ionization of krypton at an x-ray free-electron laser. Physical Review A, 2013, 87, .	2.5	57
18	Sequential multiphoton multiple ionization of atomic argon and xenon irradiated by x-ray free-electron laser pulses from SACLA. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164024.	1.5	50

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19	X-ray multiphoton-induced Coulomb explosion images complex single molecules. Nature Physics, 2022, 18, 423-428.	16.7	48
20	Enhanced nonlinear response of Ne<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mrow><mml:mn>8</mml:mn><mml:mo>+</mml:mo></mml:mrow></mml:msup></mml:math>to intense ultrafast x rays. Physical Review A, 2012, 85, .	2.5	47
21	Efficient electronic structure calculation for molecular ionization dynamics at high x-ray intensity. Structural Dynamics, 2015, 2, 041707.	2.3	47
22	Probing the origin of elliptical high-order harmonic generation from aligned molecules in linearly polarized laser fields. Physical Review A, 2010, 82, .	2.5	42
23	Incoherent x-ray scattering in single molecule imaging. New Journal of Physics, 2014, 16, 073042.	2.9	38
24	Breakdown of the X-Ray Resonant Magnetic Scattering Signal during Intense Pulses of Extreme Ultraviolet Free-Electron-Laser Radiation. Physical Review Letters, 2013, 110, 234801.	7.8	37
25	Theoretical study of orientation-dependent multiphoton ionization of polyatomic molecules in intense ultrashort laser fields: A new time-dependent Voronoi-cell finite difference method. Chemical Physics, 2009, 366, 91-102.	1.9	35
26	X-ray multiphoton ionization dynamics of a water molecule irradiated by an x-ray free-electron laser pulse. Physical Review A, 2016, 94, .	2.5	35
27	Chemical Understanding of the Limited Site-Specificity in Molecular Inner-Shell Photofragmentation. Journal of Physical Chemistry Letters, 2018, 9, 1156-1163.	4.6	31
28	Relativistic and resonant effects in the ionization of heavy atoms by ultra-intense hard X-rays. Nature Communications, 2018, 9, 4200.	12.8	29
29	Structures and Stabilities for Halides and Oxides of Transactinide Elements Rf, Db, and Sg Calculated by Relativistic Effective Core Potential Methods. Journal of Physical Chemistry A, 1999, 103, 9109-9115.	2.5	27
30	Towards RIP using free-electron laser SFX data. Journal of Synchrotron Radiation, 2015, 22, 249-255.	2.4	27
31	Setting the photoelectron clock through molecular alignment. Nature Communications, 2020, 11, 2546.	12.8	26
32	Determination of multiwavelength anomalous diffraction coefficients at high x-ray intensity. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164015.	1.5	24
33	Towards phasing using high X-ray intensity. IUCrJ, 2015, 2, 627-634.	2.2	24
34	Towards Realistic Simulations of Macromolecules Irradiated under the Conditions of Coherent Diffraction Imaging with an X-ray Free-Electron Laser. Photonics, 2015, 2, 256-269.	2.0	23
35	Femtosecond-resolved observation of the fragmentation of buckminsterfullerene following X-ray multiphoton ionization. Nature Physics, 2019, 15, 1279-1283.	16.7	22
36	Effect of screening by external charges on the atomic orbitals and photoinduced processes within the Hartree-Fock-Slater atom. Physical Review A, 2012, 86, .	2.5	20

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37	Electronic damage in S atoms in a native protein crystal induced by an intense X-ray free-electron laser pulse. Structural Dynamics, 2015, 2, 041703.	2.3	20
38	Interplay between relativistic energy corrections and resonant excitations in x-ray multiphoton ionization dynamics of Xe atoms. Physical Review A, 2017, 95, .	2.5	19
39	Radiation-Induced Chemical Dynamics in Ar Clusters Exposed to Strong X-Ray Pulses. Physical Review Letters, 2018, 120, 223201.	7.8	18
40	Ab initiotheoretical investigation of the frequency comb structure and coherence in the vuv-xuv regimes via high-order harmonic generation. Physical Review A, 2008, 77, .	2.5	16
41	Many-mode Floquet theoretical approach for coherent control of multiphoton dynamics driven by intense frequency-comb laser fields. Physical Review A, 2008, 77, .	2.5	16
42	xcalib: a focal spot calibrator for intense X-ray free-electron laser pulses based on the charge state distributions of light atoms. Journal of Synchrotron Radiation, 2019, 26, 1017-1030.	2.4	16
43	Evidence for interatomic Coulombic decay in Xe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>K</mml:mi></mml:math>-shell-vacancy decay of XeF<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review A, 2012, 86, .	2.5	13
44	Calculation of x-ray scattering patterns from nanocrystals at high x-ray intensity. Structural Dynamics, 2016, 3, 054101.	2.3	12
45	Electron-ion coincidence measurements of molecular dynamics with intense X-ray pulses. Scientific Reports, 2021, 11, 505.	3.3	11
46	Resonance-Enhanced Multiphoton Ionization in the X-Ray Regime. Physical Review Letters, 2021, 127, 213202.	7.8	11
47	Recombination-amplitude calculations of noble gases, in both length and acceleration forms, beyond the strong-field approximation. Physical Review A, 2013, 88, .	2.5	10
48	Molecular-dynamics approach for studying the nonequilibrium behavior of x-ray-heated solid-density matter. Physical Review E, 2017, 96, 023205.	2.1	10
49	Inner-Shell-Ionization-Induced Femtosecond Structural Dynamics of Water Molecules Imaged at an X-Ray Free-Electron Laser. Physical Review X, 2021, 11, .	8.9	10
50	Electron and fluorescence spectra of a water molecule irradiated by an x-ray free-electron laser pulse. Physical Review A, 2018, 97, .	2.5	9
51	Breakdown of frustrated absorption in x-ray sequential multiphoton ionization. Physical Review Research, 2020, 2, .	3.6	9
52	Kinetic Boltzmann approach adapted for modeling highly ionized matter created by x-ray irradiation of a solid. Physical Review E, 2016, 93, 053210.	2.1	8
53	Electronic-structure calculations for nonisothermal warm dense matter. Physical Review Research, 2020, 2, .	3.6	8
54	Photoelectron spectroscopy method to reveal ionization potential lowering in nanoplasmas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164009.	1.5	7

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55	Real-time observation of disintegration processes within argon clusters ionized by a hard-x-ray pulse of moderate fluence. Physical Review A, 2020, 101, .	2.5	7
56	Suppression of thermal nanoplasma emission in clusters strongly ionized by hard x-rays. Journal of Physics B: Atomic, Molecular and Optical Physics, 2021, 54, 044001.	1.5	7
57	Transient ionization potential depression in nonthermal dense plasmas at high x-ray intensity. Physical Review E, 2021, 103, 023203.	2.1	7
58	Pulse Energy and Pulse Duration Effects in the Ionization and Fragmentation of Iodomethane by Ultraintense Hard X Rays. Physical Review Letters, 2021, 127, 093202.	7.8	6
59	Theoretical investigation of orbital alignment of x-ray-ionized atoms in exotic electronic configurations. Physical Review A, 2022, 105, .	2.5	6
60	Theoretical evidence for the sensitivity of charge-rearrangement-enhanced x-ray ionization to molecular size. Physical Review A, 2019, 100, .	2.5	5
61	Voronoi-cell finite difference method for accurate electronic structure calculation of polyatomic molecules on unstructured grids. Journal of Computational Physics, 2011, 230, 2160-2173.	3.8	4
62	Compton spectra of atoms at high x-ray intensity. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 064003.	1.5	4
63	Ab initiocalculation of electron-impact-ionization cross sections for ions in exotic electron configurations. Physical Review A, 2018, 98, .	2.5	3
64	Probing ultrafast coherent dynamics in core-excited xenon by using attosecond XUV-NIR transient absorption spectroscopy. Physical Review A, 2021, 103, .	2.5	2
65	Towards the theoretical limitations of X-ray nanocrystallography at high intensity: the validity of the effective-form-factor description. IUCrJ, 2018, 5, 699-705.	2.2	2
66	Spatial beam profile-induced effects in x-ray scattering pattern at high intensity. Journal of Physics: Conference Series, 2015, 635, 102008.	0.4	1
67	Recombination Amplitude Calculation for Noble Gases beyond Strong Field Approximation in Length and Acceleration Gauge. , 2012, , .		0
68	Multiphoton Multiple Ionization of Rare-Gas Atoms and Clusters by X-Ray Free-Electron Laser Pulses from SACLA. , 2014, , .		0
69	Ultrafast x-ray-driven phenomena in nanocrystals: development and application of powerful simulation tools. EPJ Web of Conferences, 2019, 205, 05022.	0.3	0
70	Molecular ionization enhancement by charge rearrangement at high X-ray intensity. EPJ Web of Conferences, 2019, 205, 06009.	0.3	0
71	Enormous enhancement of molecular ionization at high x-ray intensity. Journal of Physics: Conference Series, 2020, 1412, 152051.	0.4	0