Jaehun Chun

List of Publications by Year
in descending order

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82 papers	3,182 citations	186209 28 h-index	161767 54 g-index
88 all docs	88 docs citations	88 times ranked	3725 citing authors

#	Article	IF	Citations
1	Clustering of aerosol particles in isotropic turbulence. Journal of Fluid Mechanics, 2005, 536, 219-251.	1.4	227
2	Comparison of the Quality of Aqueous Dispersions of Single Wall Carbon Nanotubes Using Surfactants and Biomolecules. Langmuir, 2008, 24, 5070-5078.	1.6	225
3	Chalcogenide Aerogels as Sorbents for Radioactive Iodine. Chemistry of Materials, 2015, 27, 2619-2626.	3.2	186
4	Chalcogen-Based Aerogels As Sorbents for Radionuclide Remediation. Environmental Science & Technology, 2013, 47, 7540-7547.	4.6	161
5	Length Fractionation of Carbon Nanotubes Using Centrifugation. Advanced Materials, 2008, 20, 1609-1613.	11.1	160
6	Biomolecular electrostatics and solvation: a computational perspective. Quarterly Reviews of Biophysics, 2012, 45, 427-491.	2.4	152
7	Length-Dependent Optical Effects in Single-Wall Carbon Nanotubes. Journal of the American Chemical Society, 2007, 129, 10607-10612.	6.6	138
8	Review of the Scientific Understanding of Radioactive Waste at the U.S. DOE Hanford Site. Environmental Science & Technology, 2018, 52, 381-396.	4.6	130
9	Polyacrylonitrile-Chalcogel Hybrid Sorbents for Radioiodine Capture. Environmental Science & Technology, 2014, 48, 5832-5839.	4.6	90
10	Chalcogen-based aerogels as a multifunctional platform for remediation of radioactive iodine. RSC Advances, 2011, 1, 1704.	1.7	85
11	Centrifugal Length Separation of Carbon Nanotubes. Langmuir, 2008, 24, 13880-13889.	1.6	81
12	Size Separation of Single-Wall Carbon Nanotubes by Flow-Field Flow Fractionation. Analytical Chemistry, 2008, 80, 2514-2523.	3.2	78
13	Connecting energetics to dynamics in particle growth by oriented attachment using real-time observations. Nature Communications, 2020, 11, 1045.	5.8	74
14	Bidisperse and polydisperse suspension rheology at large solid fraction. Journal of Rheology, 2018, 62, 513-526.	1.3	65
15	From Yielding to Shear Jamming in a Cohesive Frictional Suspension. Physical Review Letters, 2019, 122, 098004.	2.9	62
16	Coagulation of monodisperse aerosol particles by isotropic turbulence. Physics of Fluids, 2005, 17, 027102.	1.6	57
17	Trends in micaâ€“mica adhesion reflect the influence of molecular details on long-range dispersion forces underlying aggregation and coalignment. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7537-7542.	3.3	56
18	Living anionic polymerization using a microfluidic reactor. Lab on A Chip, 2009, 9, 339-345.	3.1	54

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19	Simulation of shear thickening in attractive colloidal suspensions. Soft Matter, 2017, 13, 1773-1779.	1.2	53
20	Use of dielectric functions in the theory of dispersion forces. Physical Review B, 2005, 71, .	1.1	44
21	Carbon Nanotubes: Measuring Dispersion and Length. Advanced Materials, 2011, 23, 338-348.	11.1	44
22	Impact of Solution Chemistry and Particle Anisotropy on the Collective Dynamics of Oriented Aggregation. ACS Nano, 2018, 12, 10114-10122.	7.3	40
23	Chromatographic Fractionation of SWNT/DNA Dispersions with On-Line Multi-Angle Light Scattering. Journal of Physical Chemistry C, 2008, 112, 1842-1850.	1.5	39
24	Cold-cap reactions in vitrification of nuclear waste glass: Experiments and modeling. Thermochimica Acta, 2013, 559, 32-39.	1.2	36
25	Anisotropic Adsorption of Molecular Assemblies on Crystalline Surfaces. Journal of Physical Chemistry B, 2006, 110, 16624-16632.	1.2	34
26	Mechanistic Understanding of the Growth Kinetics and Dynamics of Nanoparticle Superlattices by Coupling Interparticle Forces from Real-Time Measurements. ACS Nano, 2018, 12, 12778-12787.	7.3	34
27	Moving beyond the Solvent-Tip Approximation to Determine Site-Specific Variations of Interfacial Water Structure through 3D Force Microscopy. Journal of Physical Chemistry C, 2021, 125, 1282-1291.	1.5	31
28	Orientational Order of Molecular Assemblies on Inorganic Crystals. Physical Review Letters, 2006, 96, 018301.	2.9	28
29	Polymer-Cement Composites with Self-Healing Ability for Geothermal and Fossil Energy Applications. Chemistry of Materials, 2017, 29, 4708-4718.	3.2	28
30	Application of evolved gas analysis to cold-cap reactions of melter feeds for nuclear waste vitrification. Thermochimica Acta, 2014, 592, 86-92.	1.2	27
31	A Mechanistic Understanding of Nonclassical Crystal Growth in Hydrothermally Synthesized Sodium Yttrium Fluoride Nanowires. Chemistry of Materials, 2020, 32, 2753-2763.	3.2	27
32	The Role of Solvent Heterogeneity in Determining the Dispersion Interaction between Nanoassemblies. Journal of Physical Chemistry B, 2015, 119, 5873-5881.	1.2	26
33	Chalcogenide Aerogels as Sorbents for Noble Gases (Xe, Kr). ACS Applied Materials & Interfaces, 2017, 9, 33389-33394.	4.0	25
34	Effects of Ionic Strength, Salt, and pH on Aggregation of Boehmite Nanocrystals: Tumbler Small-Angle Neutron and X-ray Scattering and Imaging Analysis. Langmuir, 2018, 34, 15839-15853.	1.6	25
35	Effect of melter feed foaming on heat flux to the cold cap. Journal of Nuclear Materials, 2017, 496, 54-65.	1.3	24
36	Visualization of Aluminum Ions at the Mica Water Interface Links Hydrolysis State-to-Surface Potential and Particle Adhesion. Journal of the American Chemical Society, 2020, 142, 6093-6102.	6.6	24

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37	Effect of particle size distribution on slurry rheology: Nuclear waste simulant slurries. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 384, 304-310.	2.3	22
38	Insights into the physical and chemical properties of a cement-polymer composite developed for geothermal wellbore applications. Cement and Concrete Composites, 2019, 97, 279-287.	4.6	22
39	Characteristics of Cast Stone cementitious waste form for immobilization of secondary wastes from vitrification process. Journal of Nuclear Materials, 2012, 420, 164-174.	1.3	21
40	Parameterization of a geometric flow implicit solvation model. Journal of Computational Chemistry, 2013, 34, 687-695.	1.5	21
41	Effect of Bubbles and Silica Dissolution on Melter Feed Rheology during Conversion to Glass. Environmental Science & Technology, 2014, 48, 12173-12180.	4.6	19
42	Quantifying the Molecular-Scale Aqueous Response to the Mica Surface. Journal of Physical Chemistry C, 2017, 121, 18496-18504.	1.5	19
43	Interplay between Shortâ€•and Longâ€Ranged Forces Leading to the Formation of Ag Nanoparticle Superlattice. Small, 2019, 15, 1901966.	5.2	19
44	The effects of non-continuum hydrodynamics on the Brownian coagulation of aerosol particles. Journal of Aerosol Science, 2006, 37, 471-482.	1.8	18
45	Electroacoustics of Particles Dispersed in Polymer Gel. Langmuir, 2011, 27, 7376-7379.	1.6	18
46	Correlating inter-particle forces and particle shape to shear-induced aggregation/fragmentation and rheology for dilute anisotropic particle suspensions: A complementary study via capillary rheometry and in-situ small and ultra-small angle X-ray scattering. Journal of Colloid and Interface Science, 2020, 576, 47-58.	5.0	18
47	Consolidation of Tin Sulfide Chalcogels and Xerogels with and without Adsorbed Iodine. Industrial & Engineering Chemistry Research, 2015, 54, 11259-11267.	1.8	17
48	Setting and stiffening of cementitious components in Cast Stone waste form for disposal of secondary wastes from the Hanford waste treatment and immobilization plant. Cement and Concrete Research, 2013, 46, 14-22.	4.6	16
49	Surface Chemistry Affects the Efficacy of the Hydration Force between Two ZnO(101Ì…0) Surfaces. Journal of Physical Chemistry C, 2018, 122, 12259-12266.	1.5	16
50	Connecting particle interactions to agglomerate morphology and rheology of boehmite nanocrystal suspensions. Journal of Colloid and Interface Science, 2020, 572, 328-339.	5.0	16
51	Investigating the magnitude and source of orientation-dependent interactions between TiO₂ crystal surfaces. Nanoscale, 2017, 9, 10173-10177.	2.8	15
52	Stabilization and control of rheological properties of Fe2O3/Al(OH)3-rich colloidal slurries under high ionic strength and pH. Journal of Colloid and Interface Science, 2010, 348, 280-288.	5.0	14
53	Effect of chemical and physical heterogeneities on colloid-facilitated cesium transport. Journal of Contaminant Hydrology, 2018, 213, 22-27.	1.6	14
54	Silver Nanocube and Nanobar Growth via Anisotropic Monomer Addition and Particle Attachment Processes. Langmuir, 2018, 34, 1466-1472.	1.6	13

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55	Rheology of simulated radioactive waste slurry and cold cap during vitrification. Journal of the American Ceramic Society, 2018, 101, 5020-5029.	1.9	13
56	Electrophoretic mobility of poly(acrylic acid)-coated alumina particles. Journal of Colloid and Interface Science, 2011, 358, 123-128.	5.0	12
57	Improving in situ liquid SEM imaging of particles. Surface and Interface Analysis, 2019, 51, 1325-1331.	0.8	12
58	Viscosity of glassâ€forming melt at the bottom of highâ€level waste melterâ€feed cold caps: Effects of temperature and incorporation of solid components. Journal of the American Ceramic Society, 2020, 103, 1615-1630.	1.9	12
59	Melter feed viscosity during conversion to glass: Comparison between lowâ€activity waste and highâ€level waste feeds. Journal of the American Ceramic Society, 2018, 101, 1880-1891.	1.9	10
60	Predictive Theoretical Framework for Dynamic Control of Bioinspired Hybrid Nanoparticle Self-Assembly. ACS Nano, 2022, 16, 1919-1928.	7.3	10
61	Spiers Memorial Lecture: Assembly-based pathways of crystallization. Faraday Discussions, 2022, 235, 9-35.	1.6	10
62	Effects of iron oxides on the rheological properties of cementitious slurry. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 453, 94-100.	2.3	9
63	In situ characterization of kinetics and mass transport of PbSe nanowire growth via LS and VLS mechanisms. Nanoscale, 2019, 11, 5874-5878.	2.8	9
64	Shear stress dependence of force networks in 3D dense suspensions. Soft Matter, 2021, 17, 7476-7486.	1.2	9
65	Global topology of contact force networks: Insight into shear thickening suspensions. Physical Review E, 2019, 99, 012607.	0.8	8
66	Unexpected conformational behavior of poly(poly(ethylene glycol) methacrylate)-poly(propylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 copolymers in micellar solution and at the air-water interface. Journal of Colloid and Interface Science, 2020, 566, 304-315.	5.0	8
67	Radiolysis and Radiation-Driven Dynamics of Boehmite Dissolution Observed by In Situ Liquid-Phase TEM. Environmental Science & Technology, 2022, 56, 5029-5036.	4.6	8
68	Effects of alumina sources (gibbsite, boehmite, and corundum) on melting behavior of high-level radioactive waste melter feed. MRS Advances, 2017, 2, 603-608.	0.5	7
69	Transport of Colloidal Particles in Microscopic Porous Medium Analogues with Surface Charge Heterogeneity: Experiments and the Fundamental Role of Single-Bead Deposition. Environmental Science & Technology, 2020, 54, 13651-13660.	4.6	7
70	Effects of catalyst droplets on wire growth and the resulting branched structures during VLS growth. Nanoscale, 2020, 12, 7538-7543.	2.8	7
71	Thermal properties of simulated Hanford waste glasses. Journal of the American Ceramic Society, 2017, 100, 2533-2542.	1.9	6
72	Correlation function approach for diffusion in confined geometries. Physical Review E, 2020, 102, 022129.	0.8	6

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73	Synthesis and Engineering Materials Properties of Fluid-Phase Chemical Hydrogen Storage Materials for Automotive Applications. Energy & Fuels, 2015, 29, 6695-6703.	2.5	5
74	Bead-Based Microfluidic Sediment Analogues: Fabrication and Colloid Transport. Langmuir, 2016, 32, 9342-9350.	1.6	5
75	Dynamics of micelleâ€“nanoparticle systems undergoing shear: a coarse-grained molecular dynamics approach. Soft Matter, 2013, 9, 10294.	1.2	4
76	Frustrated Coulombic and Cation Size Effects on Nanoscale Boehmite Aggregation: A Tumbler Small- and Ultra-Small-Angle Neutron Scattering Study. Journal of Physical Chemistry C, 2022, 126, 4391-4414.	1.5	4
77	In situ liquid SEM imaging analysis revealing particle dispersity in aqueous solutions. Journal of Microscopy, 2020, 279, 79-84.	0.8	3
78	²⁷Al NMR diffusometry of Al₁₃ Keggin nanoclusters. Magnetic Resonance in Chemistry, 2022, 60, 226-238.	1.1	3
79	Millimeter wave rheometry: theory and experiment. Rheologica Acta, 2011, 50, 125-130.	1.1	2
80	Materials Engineering and Scale-up of Fluid Phase Chemical Hydrogen Storage for Automotive Applications. Energy & Fuels, 2016, 30, 560-569.	2.5	2
81	Fabrication of oriented crystals as force measurement tips via focused ion beam and microlithography methods. Surface and Interface Analysis, 2018, 50, 117-122.	0.8	2
82	Reply to Comment on â€œA Mechanistic Understanding of Nonclassical Crystal Growth in Hydrothermally Synthesized Sodium Yttrium Fluoride Nanowiresâ€• Chemistry of Materials, 2021, 33, 3862-3864.	3.2	1