

Devang Khakhar

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126
papers

4,448
citations

36
h-index

63
g-index

130
ext. papers

4,772
ext. citations

4.4
avg, IF

5.6
L-index

#	Paper	IF	Citations
126	Mixing and Segregation of Granular Materials. <i>Annual Review of Fluid Mechanics</i> , 2000 , 32, 55-91	2.2	498
125	Studies on poly(vinylidene fluoride)clay nanocomposites: Effect of different clay modifiers. <i>Polymer</i> , 2008 , 49, 3486-3499	3.9	195
124	Transverse flow and mixing of granular materials in a rotating cylinder. <i>Physics of Fluids</i> , 1997 , 9, 31-43	4.4	182
123	Radial segregation of granular mixtures in rotating cylinders. <i>Physics of Fluids</i> , 1997 , 9, 3600-3614	4.4	174
122	Analysis of chaotic mixing in two model systems. <i>Journal of Fluid Mechanics</i> , 1986 , 172, 419	3.7	148
121	A case study of chaotic mixing in deterministic flows: The partitioned-pipe mixer. <i>Chemical Engineering Science</i> , 1987 , 42, 2909-2926	4.4	127
120	Polyurethane Foamclay Nanocomposites: Nanoclays as Cell Openers. <i>Industrial & Engineering Chemistry Research</i> , 2006 , 45, 7126-7134	3.9	120
119	Segregation-driven organization in chaotic granular flows. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999 , 96, 11701-6	11.5	118
118	Axial segregation of particles in a horizontal rotating cylinder. <i>Chemical Engineering Science</i> , 1991 , 46, 1513-1517	4.4	115
117	Scaling relations for granular flow in quasi-two-dimensional rotating cylinders. <i>Physical Review E</i> , 2001 , 64, 031302	2.4	114
116	Mixing and segregation of granular materials in chute flows. <i>Chaos</i> , 1999 , 9, 594-610	3.3	95
115	Chaotic mixing in a bounded three-dimensional flow. <i>Journal of Fluid Mechanics</i> , 2000 , 417, 265-301	3.7	93
114	Computational studies of granular mixing. <i>Powder Technology</i> , 2000 , 109, 72-82	5.2	91
113	Surface flow of granular materials: model and experiments in heap formation. <i>Journal of Fluid Mechanics</i> , 2001 , 441, 255-264	3.7	88
112	Mixing and Dispersion of Viscous Liquids and Powdered Solids. <i>Advances in Chemical Engineering</i> , 1999 , 25, 105-204	0.6	83
111	Breakup of liquid threads in linear flows. <i>International Journal of Multiphase Flow</i> , 1987 , 13, 71-86	3.6	81
110	Density difference-driven segregation in a dense granular flow. <i>Journal of Fluid Mechanics</i> , 2013 , 717, 643-669	3.7	74

109	Visualization of three-dimensional chaos. <i>Science</i> , 1998 , 281, 683-6	33.3	72
108	Deformation and breakup of slender drops in linear flows. <i>Journal of Fluid Mechanics</i> , 1986 , 166, 265	3.7	67
107	Rheology of binary granular mixtures in the dense flow regime. <i>Physics of Fluids</i> , 2011 , 23, 113302	4.4	65
106	Modeling of the Dynamics of Water and R-11 blown polyurethane foam formation. <i>Polymer Engineering and Science</i> , 1994 , 34, 642-649	2.3	63
105	Rigid polyurethane-epoxy nanocomposite foams: Preparation and properties. <i>Journal of Applied Polymer Science</i> , 2007 , 103, 2802-2809	2.9	60
104	Segregation of granular materials in rotating cylinders. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003 , 318, 129-136	3.3	60
103	Chaotic mixing of granular materials in two-dimensional tumbling mixers. <i>Chaos</i> , 1999 , 9, 195-205	3.3	57
102	Continuum model of mixing and size segregation in a rotating cylinder: concentration-flow coupling and streak formation. <i>Powder Technology</i> , 2001 , 116, 232-245	5.2	54
101	Rheology of surface granular flows. <i>Journal of Fluid Mechanics</i> , 2007 , 571, 1-32	3.7	52
100	Axial transport of granular solids in horizontal rotating cylinders. Part 1: Theory. <i>Powder Technology</i> , 1991 , 67, 145-151	5.2	51
99	Reticulated vitreous carbon from polyurethane foam-epoxy composites. <i>Carbon</i> , 2007 , 45, 531-535	10.4	50
98	Formation and characterization of polyurethane-vermiculite clay nanocomposite foams. <i>Polymer Engineering and Science</i> , 2008 , 48, 1778-1784	2.3	48
97	Axial transport of granular solids in rotating cylinders. Part 2: Experiments in a non-flow system. <i>Powder Technology</i> , 1991 , 67, 153-162	5.2	46
96	Modeling of the dynamics of R-11 blown polyurethane foam formation. <i>Polymer Engineering and Science</i> , 1994 , 34, 632-641	2.3	44
95	Fundamental research in heaping, mixing, and segregation of granular materials: challenges and perspectives. <i>Powder Technology</i> , 2001 , 121, 117-122	5.2	43
94	Self-organization in granular slurries. <i>Physical Review Letters</i> , 2001 , 86, 3771-4	7.4	43
93	Coalescence in Surfactant-Stabilized Emulsions Subjected to Shear Flow. <i>Langmuir</i> , 2001 , 17, 2647-2655	4	43
92	Dispersion of solids in nonhomogeneous viscous flows. <i>Chemical Engineering Science</i> , 1998 , 53, 1803-1817	4.4	36

91	Mixing of viscous immiscible liquids. Part 1: Computational models for strong Weak and continuous flow systems. <i>Chemical Engineering Science</i> , 2001 , 56, 5511-5529	4.4	36
90	Enhancement of polymerization rates for rigid rod-like molecules by shearing. <i>Nature</i> , 1992 , 360, 53-55	50.4	36
89	Solid-fluid transition in a granular shear flow. <i>Physical Review Letters</i> , 2004 , 93, 068001	7.4	35
88	Scaling of granular flow processes: From surface flows to design rules. <i>AIChE Journal</i> , 2002 , 48, 2157-2166	6	35
87	Phosphonium-based layered silicatePoly(ethylene terephthalate) nanocomposites: Stability, thermal and mechanical properties. <i>Journal of Applied Polymer Science</i> , 2009 , 113, 1720-1732	2.9	33
86	Stretching induced phase transformations in melt extruded poly(vinylidene fluoride) cast films: Effect of cast roll temperature and speed. <i>Polymer Engineering and Science</i> , 2007 , 47, 1992-2004	2.3	30
85	Suppression of Coalescence in Surfactant Stabilized Emulsions by Shear Flow. <i>Physical Review Letters</i> , 1999 , 83, 2461-2464	7.4	29
84	Radial mixing of granular materials in a rotating cylinder: Experimental determination of particle self-diffusivity. <i>Physics of Fluids</i> , 2005 , 17, 013101	4.4	28
83	Fluid mixing (stretching) by time periodic sequences for weak flows. <i>Physics of Fluids</i> , 1986 , 29, 3503		28
82	Phase transformation and enhancement of toughness in polyvinylidene fluoride by onium salts. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2011 , 49, 1339-1344	2.6	27
81	A study of the rheology of planar granular flow of dumbbells using discrete element method simulations. <i>Physics of Fluids</i> , 2016 , 28, 103301	4.4	27
80	MIXING OF GRANULAR MATERIALS: A TEST-BED DYNAMICAL SYSTEM FOR PATTERN FORMATION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1999 , 09, 1467-1484	2	26
79	Regulation of Cell Structure in Water Blown Rigid Polyurethane Foam. <i>Macromolecular Symposia</i> , 2004 , 216, 241-254	0.8	25
78	Numerical simulation of the sedimentation of a sphere in a sheared granular fluid: a granular Stokes experiment. <i>Physical Review Letters</i> , 2011 , 107, 108001	7.4	24
77	Mixing of viscous immiscible liquids. Part 2: OveremulsificationInterpretation and use. <i>Chemical Engineering Science</i> , 2001 , 56, 5531-5537	4.4	24
76	SURFACE GRANULAR FLOWS: TWO RELATED EXAMPLES. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2001 , 04, 407-417	0.8	24
75	Formation of integral skin polyurethane foams. <i>Polymer Engineering and Science</i> , 1999 , 39, 164-176	2.3	24
74	Radial segregation of ternary granular mixtures in rotating cylinders. <i>Granular Matter</i> , 2011 , 13, 475-486	2.6	22

73	Rheology of a gas-fluidized bed. <i>Powder Technology</i> , 1995 , 83, 29-34	5.2	22
72	A Simple Model for Granular Convection. <i>Physical Review Letters</i> , 1997 , 79, 829-832	7.4	20
71	Mechanistic origins of multi-scale reinforcements in segmented polyurethane-clay nanocomposites. <i>Polymer</i> , 2014 , 55, 5198-5210	3.9	19
70	Fluidization characteristics of lithium-titanate in gas-solid fluidized bed. <i>Fusion Engineering and Design</i> , 2011 , 86, 393-398	1.7	18
69	Experimental evidence for a description of granular segregation in terms of the effective temperature. <i>Europhysics Letters</i> , 2008 , 83, 54004	1.6	18
68	Rheology and Mixing of Granular Materials. <i>Macromolecular Materials and Engineering</i> , 2011 , 296, 278-289	3.9	17
67	Internal avalanches in a granular medium. <i>Physical Review E</i> , 1998 , 58, R6935-R6938	2.4	17
66	Diffusion-limited polymerization of rigid rodlike molecules: Dilute solutions. <i>Journal of Chemical Physics</i> , 1992 , 96, 7125-7134	3.9	17
65	An experimental study of the flow of nonspherical grains in a rotating cylinder. <i>AIChE Journal</i> , 2017 , 63, 4307-4315	3.6	16
64	Effect of monomer temperature on foaming and properties of flexible polyurethane foams. <i>Journal of Applied Polymer Science</i> , 2007 , 105, 3439-3443	2.9	16
63	Characterizing the nanoclay induced constrained amorphous region in model segmented polyurethane-urea/clay nanocomposites and its implications on gas barrier properties. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 1487-99	3.6	15
62	Flexural Properties of Mica Filled Polyurethane Foams. <i>Journal of Cellular Plastics</i> , 1997 , 33, 587-605	1.5	14
61	Breakage of vesicles in a simple shear flow. <i>Soft Matter</i> , 2019 , 15, 1979-1987	3.6	13
60	Dense granular flow of mixtures of spheres and dumbbells down a rough inclined plane: Segregation and rheology. <i>Physics of Fluids</i> , 2019 , 31, 023304	4.4	13
59	Steady flow of smooth, inelastic particles on a bumpy inclined plane: hard and soft particle simulations. <i>Physical Review E</i> , 2010 , 81, 041307	2.4	13
58	Sensitivity of granular segregation of mixtures in quasi-two-dimensional fluidized layers. <i>Physical Review E</i> , 2004 , 69, 031304	2.4	13
57	Optimization of the structure of integral skin foams for maximal flexural properties. <i>Polymer Engineering and Science</i> , 1994 , 34, 726-733	2.3	13
56	Analysis of granular rheology in a quasi-two-dimensional slow flow by means of discrete element method based simulations. <i>Physics of Fluids</i> , 2020 , 32, 013301	4.4	12

55	Sidewall-friction-driven ordering transition in granular channel flows: Implications for granular rheology. <i>Physical Review E</i> , 2017 , 96, 050901	2.4	12
54	Clay nanoplatelet induced morphological evolutions during polymeric foaming. <i>Soft Matter</i> , 2011 , 7, 6801	3.6	12
53	Hydraulic resistance of rigid polyurethane foams. III. Effect of variation of the concentration of catalysts on foam structure and properties. <i>Journal of Applied Polymer Science</i> , 2004 , 93, 2838-2843	2.9	12
52	Diffusion-limited polymerization of rigid rodlike molecules: Semidilute solutions. <i>Journal of Chemical Physics</i> , 1993 , 99, 1382-1392	3.9	12
51	Structure-thermomechanical property correlation of moisture cured poly(urethane-urea)/clay nanocomposite coatings. <i>Progress in Organic Coatings</i> , 2012 , 75, 264-273	4.8	11
50	Studies on the phase transformations in mechanically deformed PVDF films. <i>Journal of Applied Polymer Science</i> , 2010 , 117, n/a-n/a	2.9	11
49	Hydraulic resistance of rigid polyurethane foams. I. Effect of different surfactants on foam structure and properties. <i>Journal of Applied Polymer Science</i> , 2004 , 93, 2821-2829	2.9	11
48	Mixing of granular material in rotating cylinders with noncircular cross-sections. <i>Physics of Fluids</i> , 2010 , 22, 103302	4.4	10
47	Hydraulic resistance of rigid polyurethane foams. II. Effect of variation of surfactant, water, and nucleating agent concentrations on foam structure and properties. <i>Journal of Applied Polymer Science</i> , 2004 , 93, 2830-2837	2.9	10
46	Polymerization kinetics of rodlike molecules under quiescent conditions. <i>AIChE Journal</i> , 2001 , 47, 177-186	3.6	10
45	Open problems in active chaotic flows: Competition between chaos and order in granular materials. <i>Chaos</i> , 2002 , 12, 400-407	3.3	10
44	Shear flow induced orientation development during homogeneous solution polymerization of rigid rodlike molecules. <i>Macromolecules</i> , 1993 , 26, 3960-3965	5.5	10
43	Rheology of dense granular flows in two dimensions: Comparison of fully two-dimensional flows to unidirectional shear flow. <i>Physical Review Fluids</i> , 2018 , 3,	2.8	10
42	A study of the rheology and micro-structure of dumbbells in shear geometries. <i>Physics of Fluids</i> , 2018 , 30, 013303	4.4	9
41	Role of voids in granular convection. <i>Physical Review E</i> , 1997 , 55, 6121-6133	2.4	9
40	Simulation of diffusion-limited step-growth polymerization in 2D: Effect of shear flow and chain rigidity. <i>Journal of Chemical Physics</i> , 1993 , 99, 3067-3074	3.9	9
39	Granular flow in rotating cylinders with noncircular cross sections. <i>Physical Review E</i> , 2008 , 77, 041301	2.4	7
38	Brownian dynamics simulation of diffusion-limited polymerization of rodlike molecules: Anisotropic translation diffusion. <i>Journal of Chemical Physics</i> , 1998 , 108, 5626-5634	3.9	7

37	Competition effects in surface diffusion controlled reactions: Theory and Brownian dynamics simulations. <i>Journal of Chemical Physics</i> , 1993 , 99, 9237-9247	3.9	7
36	Collision rates in chaotic flows: Dilute suspensions. <i>Physical Review A</i> , 1990 , 42, 5964-5969	2.6	7
35	Brownian dynamics simulations of diffusion controlled reactions with finite reactivity. <i>Journal of Chemical Physics</i> , 1997 , 107, 1915-1921	3.9	6
34	Coalescence in a surfactant-less emulsion under simple shear flow. <i>AIChE Journal</i> , 2006 , 52, 885-894	3.6	6
33	Creating analytically divergence-free velocity fields from grid-based data. <i>Journal of Computational Physics</i> , 2016 , 323, 75-94	4.1	6
32	Anomalous toluene transport in model segmented polyurethane-urea/clay nanocomposites. <i>Soft Matter</i> , 2018 , 14, 3870-3881	3.6	5
31	Simulation of the percolation of water into rigid polyurethane foams at applied hydraulic pressures. <i>Polymer Engineering and Science</i> , 2006 , 46, 970-983	2.3	5
30	Jet impingement mixing in an L-type mixhead: Comparison of mixing criteria. <i>Polymer Engineering and Science</i> , 1993 , 33, 1611-1618	2.3	5
29	A note on the linear vector model of Olbricht, Rallison, and Leal as applied to the breakup of slender axisymmetric drops. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1986 , 21, 127-131	2.7	5
28	Effects of Ethanol Addition on the Size Distribution of Liposome Suspensions in Water. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 7511-7519	3.9	4
27	A study of wet granule breakage in a breakage-only high-shear mixer. <i>Advanced Powder Technology</i> , 2020 , 31, 2438-2446	4.6	4
26	Theoretical calculation of the buoyancy force on a particle in flowing granular mixtures. <i>Physical Review E</i> , 2019 , 100, 042909	2.4	4
25	Gradient Monte Carlo simulations: hard spheres in spatially varying temperature and gravitational fields. <i>Physical Review E</i> , 2011 , 83, 061306	2.4	4
24	Flow enhanced diffusion-limited polymerization of rodlike molecules. <i>Journal of Chemical Physics</i> , 2001 , 114, 553	3.9	4
23	Acceleration of the Polymerization of Rodlike Molecules by Flow. <i>Journal of the American Chemical Society</i> , 2000 , 122, 10910-10913	16.4	4
22	Structure Formation in Suspensions with a Liquid Crystalline Medium: Percolation Phenomena. <i>Langmuir</i> , 1998 , 14, 2541-2547	4	4
21	FLUIDIZED BED ADSORBER MODELLING AND EXPERIMENTAL STUDY. <i>Chemical Engineering Communications</i> , 1983 , 20, 235-251	2.2	4
20	Benzyl triphenyl phosphonium chloride as an additive for polyvinylidene fluoride: Melt rheology, crystallization, and electrical properties. <i>Polymer Engineering and Science</i> , 2014 , 54, 2420-2429	2.3	3

19	Modeling the dynamics of reactive foaming and film thinning in polyurethane foams. <i>AICHE Journal</i> , 2009 , 56, NA-NA	3.6	3
18	RAINING OF PARTICLES FROM AN EMULSION-GAS INTERFACE IN A FLUIDIZED BED. <i>Chemical Engineering Communications</i> , 1997 , 161, 205-229	2.2	3
17	Granular surface flow on an asymmetric conical heap. <i>Journal of Fluid Mechanics</i> , 2019 , 865, 41-59	3.7	3
16	Global organization of three-dimensional, volume-preserving flows: Constraints, degenerate points, and Lagrangian structure. <i>Chaos</i> , 2020 , 30, 033124	3.3	2
15	Experimental Investigation of Coke Collapse in Quasi-two Dimensional System for a Blast Furnace. <i>Procedia Engineering</i> , 2015 , 102, 676-683		2
14	Granular segregation in quasi-2d rectangular bin 2013 ,		2
13	Reinforcement Mechanism Of Polyurethane-Urea/Clay Nanocomposites Probed By Positron Annihilation Lifetime Spectroscopy And Dynamic Mechanical Analysis 2010 ,		2
12	A Simple Method for Studying the Dynamics of Rigid Polyurethane Foam Formation. <i>Journal of Cellular Plastics</i> , 1993 , 29, 280-284	1.5	2
11	Collisional SPH: A method to model frictional collisions with SPH. <i>Applied Mathematical Modelling</i> , 2021 , 94, 13-35	4.5	2
10	Analysis of grinding in a spiral jet mill. Part 1: Batch grinding. <i>Chemical Engineering Science</i> , 2021 , 231, 116310	4.4	2
9	Depth Profile of Chemical Composition and Free Volume of Polyurethane-Urea/Clay Nanocomposite. <i>Materials Science Forum</i> , 2012 , 733, 175-178	0.4	1
8	Field induced gradient simulations: a high throughput method for computing chemical potentials in multicomponent systems. <i>Journal of Chemical Physics</i> , 2012 , 136, 134108	3.9	1
7	Modeling of industrial styrene polymerization reactors. <i>Polymer Engineering and Science</i> , 1997 , 37, 1073-1081	1.8	1
6	Reduction in gravity-induced collision frequencies of particles dispersed in a viscoplastic fluid. <i>Journal of Colloid and Interface Science</i> , 1992 , 153, 578-580	9.3	1
5	Elastoplastic frictional collisions with Collisional-SPH. <i>Tribology International</i> , 2022 , 168, 107438	4.9	1
4	Theory for size segregation in flowing granular mixtures based on computation of forces on a single large particle. <i>Physical Review E</i> , 2021 , 103, L031301	2.4	1
3	Free energy of conformational change in a single chain of polyvinylidene fluoride using molecular simulations. <i>Polymer Engineering and Science</i> , 2021 , 61, 1270-1280	2.3	1
2	Signatures of Chaos in 2D Tumbling Mixers. <i>Solid Mechanics and Its Applications</i> , 2000 , 171-180	0.4	

- 1 DEM simulations of quasi-two-dimensional flow of spherical particles on a heap without sidewalls. *EPJ Web of Conferences*, **2021**, 249, 03034 0.3