

Meheboob Alam

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

69

papers

1,211

citations

22

h-index

31

g-index

74

ext. papers

1,336

ext. citations

3.2

avg. IF

4.74

L-index

#	Paper	IF	Citations
69	Nonlinear axisymmetric Taylor-Couette flow in a dilute gas: multiroll transition and the role of compressibility. <i>Journal of Fluid Mechanics</i> , 2021 , 908,	3.7	2
68	Multiplicity of states in Taylor-Couette flow of a dense granular gas. <i>EPJ Web of Conferences</i> , 2021 , 249, 03015	0.3	0
67	Burnett-order constitutive relations, second moment anisotropy and co-existing states in sheared dense gas-solid suspensions. <i>Journal of Fluid Mechanics</i> , 2020 , 887,	3.7	4
66	Interpenetrating spiral vortices and other coexisting states in suspension Taylor-Couette flow. <i>Physical Review Fluids</i> , 2020 , 5,	2.8	9
65	Regularized extended-hydrodynamic equations for a rarefied granular gas and the plane shock waves. <i>Physical Review Fluids</i> , 2020 , 5,	2.8	4
64	Symmetry-breaking bifurcations and hysteresis in compressible Taylor-Couette flow of a dense gas: a molecular dynamics study. <i>Journal of Fluid Mechanics</i> , 2020 , 902,	3.7	4
63	Poiseuille flow of a dilute binary granular mixture: hydrodynamics and segregation. <i>Granular Matter</i> , 2019 , 21, 1	2.6	
62	Suspension Taylor-Couette flow: co-existence of stationary and travelling waves, and the characteristics of Taylor vortices and spirals. <i>Journal of Fluid Mechanics</i> , 2019 , 870, 901-940	3.7	12
61	Unified theory for a sheared gas-solid suspension: from rapid granular suspension to its small-Stokes-number limit. <i>Journal of Fluid Mechanics</i> , 2019 , 870, 1175-1193	3.7	3
60	Disentangling the role of athermal walls on the Knudsen paradox in molecular and granular gases. <i>Physical Review E</i> , 2018 , 97, 012912	2.4	4
59	Phase-coexisting patterns, horizontal segregation, and controlled convection in vertically vibrated binary granular mixtures. <i>Physical Review E</i> , 2018 , 97, 012911	2.4	3
58	Asymptotic expansion and Padé approximants for acceleration-driven Poiseuille flow of a rarefied gas: Bulk hydrodynamics and rheology. <i>Physical Review E</i> , 2018 , 98, 012115	2.4	3
57	Asymptotic expansion and Padé approximants for gravity-driven flow of a heated granular gas: Competition between inelasticity and forcing, up to Burnett order. <i>Physical Review E</i> , 2018 , 98,	2.4	2
56	Normal stress differences and beyond-Navier-Stokes hydrodynamics. <i>EPJ Web of Conferences</i> , 2017 , 140, 11014	0.3	4
55	Oblique shock waves in granular flows over bluff bodies. <i>EPJ Web of Conferences</i> , 2017 , 140, 03053	0.3	1
54	Revisiting ignited-quenched transition and the non-Newtonian rheology of a sheared dilute gas-solid suspension. <i>Journal of Fluid Mechanics</i> , 2017 , 833, 206-246	3.7	15
53	Hydrodynamics, wall-slip, and normal-stress differences in rarefied granular Poiseuille flow. <i>Physical Review E</i> , 2017 , 95, 022903	2.4	8

52	Pattern transition, microstructure, and dynamics in a two-dimensional vibrofluidized granular bed. <i>Physical Review E</i> , 2016 , 93, 052901	2.4	7
51	Plane shock wave structure in a dilute granular gas 2016 ,		4
50	Normal stress differences, their origin and constitutive relations for a sheared granular fluid. <i>Journal of Fluid Mechanics</i> , 2016 , 795, 549-580	3.7	19
49	Plane shock waves and Haff's law in a granular gas. <i>Journal of Fluid Mechanics</i> , 2015 , 779,	3.7	10
48	On Knudsen-minimum effect and temperature bimodality in a dilute granular Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2015 , 782, 99-126	3.7	9
47	Variable-cell method for stress-controlled jamming of athermal, frictionless grains. <i>Physical Review E</i> , 2014 , 89, 042203	2.4	26
46	Shock waves in a dilute granular gas 2014 ,		5
45	Higher-order effects on orientational correlation and relaxation dynamics in homogeneous cooling of a rough granular gas. <i>Physical Review E</i> , 2014 , 89, 062201	2.4	11
44	Nonlinear instability and convection in a vertically vibrated granular bed. <i>Journal of Fluid Mechanics</i> , 2014 , 761, 123-167	3.7	9
43	Non-Newtonian stress, collisional dissipation and heat flux in the shear flow of inelastic disks: a reduction via Grad's moment method. <i>Journal of Fluid Mechanics</i> , 2014 , 757, 251-296	3.7	23
42	Buoyancy driven convection in vertically shaken granular matter: experiment, numerics, and theory. <i>Granular Matter</i> , 2013 , 15, 893-911	2.6	17
41	Nonlinear stability, bifurcation and vortical patterns in three-dimensional granular plane Couette flow. <i>Journal of Fluid Mechanics</i> , 2013 , 716, 349-413	3.7	5
40	Nonlinear vorticity-banding instability in granular plane Couette flow: higher-order Landau coefficients, bistability and the bifurcation scenario. <i>Journal of Fluid Mechanics</i> , 2013 , 718, 131-180	3.7	7
39	Patterns and velocity field in vertically vibrated granular materials 2013 ,		4
38	Origin of subcritical shear-banding instability in a dense two-dimensional sheared granular fluid. <i>Granular Matter</i> , 2012 , 14, 221-227	2.6	4
37	Non-Modal Stability and Optimal Perturbations in Unbounded Granular Shear Flow: Three-Dimensionality and Particle Spin. <i>Progress of Theoretical Physics Supplement</i> , 2012 , 195, 78-100		3
36	Weakly nonlinear theory of shear-banding instability in a granular plane Couette flow: analytical solution, comparison with numerics and bifurcation. <i>Journal of Fluid Mechanics</i> , 2011 , 666, 204-253	3.7	18
35	Isostaticity of constraints in amorphous jammed systems of soft frictionless Platonic solids. <i>Physical Review E</i> , 2011 , 84, 030301	2.4	30

34	Effect of Coulomb friction on orientational correlation and velocity distribution functions in a sheared dilute granular gas. <i>Physical Review E</i> , 2011 , 84, 021304	2.4	6
33	Nonlinear stability and patterns in granular plane Couette flow: Hopf and pitchfork bifurcations, and evidence for resonance. <i>Journal of Fluid Mechanics</i> , 2011 , 672, 147-195	3.7	16
32	Athermal jamming of soft frictionless Platonic solids. <i>Physical Review E</i> , 2010 , 82, 051304	2.4	37
31	Onset of convection in strongly shaken granular matter. <i>Physical Review Letters</i> , 2010 , 104, 038001	7.4	56
30	Velocity distribution function and correlations in a granular Poiseuille flow. <i>Journal of Fluid Mechanics</i> , 2010 , 653, 175-219	3.7	14
29	Landau-type order parameter equation for shear banding in granular Couette flow. <i>Physical Review Letters</i> , 2009 , 103, 068001	7.4	18
28	Quasi-static Compaction of Polyhedra by the Discrete Element Method 2009 ,		1
27	Density waves and the effect of wall roughness in granular Poiseuille flow: Simulation and linear stability. <i>European Physical Journal: Special Topics</i> , 2009 , 179, 69-90	2.3	9
26	Slip velocity and stresses in granular Poiseuille flow via event-driven simulation. <i>Physical Review E</i> , 2009 , 80, 021303	2.4	20
25	Linear stability, transient energy growth, and the role of viscosity stratification in compressible plane Couette flow. <i>Physical Review E</i> , 2008 , 77, 036322	2.4	22
24	Orientational correlation and velocity distributions in uniform shear flow of a dilute granular gas. <i>Physical Review Letters</i> , 2008 , 100, 068002	7.4	21
23	Instabilities and patterns in horizontally oscillating particulate suspension. <i>Physical Review E</i> , 2008 , 77, 041305	2.4	1
22	Universality of shear-banding instability and crystallization in sheared granular fluid. <i>Journal of Fluid Mechanics</i> , 2008 , 615, 293-321	3.7	24
21	Effects of Prandtl number and a new instability mode in a plane thermal plume. <i>Journal of Fluid Mechanics</i> , 2007 , 592, 221-231	3.7	5
20	Velocity distribution and the effect of wall roughness in granular Poiseuille flow. <i>Physical Review E</i> , 2007 , 75, 051306	2.4	15
19	Nonmodal energy growth and optimal perturbations in compressible plane Couette flow. <i>Physics of Fluids</i> , 2006 , 18, 034103	4.4	17
18	Algebraic and exponential instabilities in a sheared micropolar granular fluid. <i>Journal of Fluid Mechanics</i> , 2006 , 567, 195	3.7	34
17	Streamwise structures and density patterns in rapid granular Couette flow: a linear stability analysis. <i>Journal of Fluid Mechanics</i> , 2006 , 553, 1	3.7	14

16	Hydrodynamic theory for reverse brazil nut segregation and the non-monotonic ascension dynamics. <i>Journal of Statistical Physics</i> , 2006 , 124, 587-623	1.5	24
15	Rheology of Two- and Three-dimensional Granular Mixtures Under Uniform Shear Flow: Enskog Kinetic Theory Versus Molecular Dynamics Simulations. <i>Granular Matter</i> , 2006 , 8, 103-115	2.6	24
14	Instability-induced ordering, universal unfolding and the role of gravity in granular Couette flow. <i>Journal of Fluid Mechanics</i> , 2005 , 523, 277-306	3.7	26
13	Energy nonequipartition, rheology, and microstructure in sheared bidisperse granular mixtures. <i>Physics of Fluids</i> , 2005 , 17, 063303	4.4	39
12	Segregation in a fluidized binary granular mixture: Competition between buoyancy and geometric forces. <i>Europhysics Letters</i> , 2003 , 64, 190-196	1.6	62
11	First normal stress difference and crystallization in a dense sheared granular fluid. <i>Physics of Fluids</i> , 2003 , 15, 2298-2312	4.4	63
10	Rheology of bidisperse granular mixtures via event-driven simulations. <i>Journal of Fluid Mechanics</i> , 2003 , 476, 69-103	3.7	78
9	How good is the equipartition assumption for the transport properties of a granular mixture?. <i>Granular Matter</i> , 2002 , 4, 139-142	2.6	28
8	Kinetic theory of a binary mixture of nearly elastic disks with size and mass disparity. <i>Physics of Fluids</i> , 2002 , 14, 4085-4087	4.4	45
7	Inelastic collapse in simple shear flow of a granular medium. <i>Physical Review E</i> , 2001 , 63, 061308	2.4	25
6	Effect of Polydispersity on Stresses in Granular Shear Flow. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 627, 1		
5	SHEAR-FLOW AND MATERIAL INSTABILITIES IN PARTICULATE SUSPENSIONS AND GRANULAR MEDIA. <i>Particulate Science and Technology</i> , 1999 , 17, 69-96	2	18
4	The effect of boundaries on the plane Couette flow of granular materials: a bifurcation analysis. <i>Journal of Fluid Mechanics</i> , 1999 , 397, 203-229	3.7	37
3	Stability of plane Couette flow of a granular material. <i>Journal of Fluid Mechanics</i> , 1998 , 377, 99-136	3.7	53
2	The influence of friction on the stability of unbounded granular shear flow. <i>Journal of Fluid Mechanics</i> , 1997 , 343, 267-301	3.7	38
1	Observations on transition in plane bubble plumes. <i>Journal of Fluid Mechanics</i> , 1993 , 254, 363-374	3.7	29