Surajit Sen

List of Publications by Year
in descending order

85 papers	2,240 citations	331538 21 h-index	223716 46 g-index
85 all docs	85 docs citations	85 times ranked	525 citing authors

#	Article	IF	Citations
1	Solitary waves in the granular chain. Physics Reports, 2008, 462, 21-66.	10.3	365
2	How Hertzian Solitary Waves Interact with Boundaries in a 1D Granular Medium. Physical Review Letters, 2005, 94, 178002.	2.9	215
3	Solitary wave trains in granular chains: experiments, theory and simulations. Granular Matter, 2007, 10, 13-20.	1.1	169
4	Solitonlike pulses in perturbed and driven Hertzian chains and their possible applications in detecting buried impurities. Physical Review E, 1998, 57, 2386-2397.	0.8	132
5	Nonlinear Dynamics in Granular Columns. Physical Review Letters, 1995, 74, 2686-2689.	2.9	118
6	Solitary wave dynamics in generalized Hertz chains: An improved solution of the equation of motion. Physical Review E, 2001, 64, 056605.	0.8	97
7	Impulse propagation in dissipative and disordered chains with power-law repulsive potentials. Physica D: Nonlinear Phenomena, 2001, 157, 226-240.	1.3	95
8	Sound propagation in impure granular columns. Physical Review E, 1996, 54, 6857-6865.	0.8	79
9	Solitary wave train formation in Hertzian chains. Europhysics Letters, 2007, 77, 24002.	0.7	69
10	Crossing of identical solitary waves in a chain of elastic beads. Physical Review E, 2000, 63, 016614.	0.8	65
11	Secondary solitary wave formation in systems with generalized Hertz interactions. Physical Review E, 2002, 66, 016616.	0.8	53
12	Discrete Hertzian chains and solitons. Physica A: Statistical Mechanics and Its Applications, 1999, 268, 644-649.	1.2	52
13	Thermalizing an impulse. Physica A: Statistical Mechanics and Its Applications, 2001, 299, 551-558.	1.2	52
14	The propagation and backscattering of soliton-like pulses in a chain of quartz beads and related problems. (I). Propagation. Physica A: Statistical Mechanics and Its Applications, 1999, 274, 588-606.	1.2	39
15	Energy partitioning and impulse dispersion in the decorated, tapered, strongly nonlinear granular alignment: A system with many potential applications. Journal of Applied Physics, 2009, 106, .	1.1	36
16	The quasi-equilibrium phase in nonlinear 1D systems. Physica A: Statistical Mechanics and Its Applications, 2004, 342, 336-343.	1.2	32
17	Dynamics of metastable breathers in nonlinear chains in acoustic vacuum. Physical Review E, 2009, 79, 036603.	0.8	31
18	Nonlinear repulsive force between two solids with axial symmetry. Physical Review E, 2011, 83, 066605.	0.8	29

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19	How solitary waves collide in discrete granular alignments. Physical Review E, 2009, 79, 046607.	0.8	26
20	Sustained strong fluctuations in a nonlinear chain at acoustic vacuum: Beyond equilibrium. Physical Review E, 2011, 84, 046610.	0.8	23
21	Long-lived solitary wave in a precompressed granular chain. Europhysics Letters, 2012, 100, 24003.	0.7	23
22	Solving the Liouville equation for conservative systems: Continued fraction formalism and a simple application. Physica A: Statistical Mechanics and Its Applications, 2006, 360, 304-324.	1.2	22
23	Nonlinear acoustics in granular assemblies. Granular Matter, 2001, 3, 33-39.	1.1	21
24	Aspects of non-ergpdicity in Hermitian systems. Physica A: Statistical Mechanics and Its Applications, 1992, 186, 285-297.	1.2	20
25	Ejection of ferrofluid grains using nonlinear acoustic impulsesâ€" A particle dynamical study. Applied Physics Letters, 1999, 75, 1479-1481.	1.5	20
26	The quasi-equilibrium phase of nonlinear chains. Pramana - Journal of Physics, 2005, 64, 423-431.	0.9	19
27	Strong plastic deformation and softening of fast colliding nanoparticles. Physical Review E, 2014, 89, 033308.	0.8	19
28	USING MECHANICAL ENERGY AS A PROBE FOR THE DETECTION AND IMAGING OF SHALLOW BURIED INCLUSIONS IN DRY GRANULAR BEDS. International Journal of Modern Physics B, 2005, 19, 2951-2973.	1.0	18
29	Algebraic Relaxation Laws for Classical Particles in 1D Anharmonic Potentials. Physical Review Letters, 1996, 77, 4855-4859.	2.9	17
30	Impulse absorption using small, hard panels of embedded cylinders with granular alignments. Applied Physics Letters, 2011, 99, .	1.5	16
31	Drag-force regimes in granular impact. Physical Review E, 2014, 90, 062202.	0.8	15
32	Nonlinear grainâ€"grain forces and the width of the solitary wave in granular chains: a numerical study. Granular Matter, 2013, 15, 157-161.	1.1	14
33	Granular chains with soft boundaries: Slowing the transition to quasiequilibrium. Physical Review E, 2015, 91, 042207.	0.8	14
34	Localizing energy in granular materials. Applied Physics Letters, 2015, 107, .	1.5	13
35	Granular chain between asymmetric boundaries and the quasiequilibrium state. Physical Review E, 2014, 89, 053202.	0.8	11
36	Multi-agent Model Analysis of the Containment Strategy for Avian Influenza (AI) in South Korea. , 2008, , .		10

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37	A COMPUTATIONAL MODEL FOR LESION DYNAMICS IN MULTIPLE SCLEROSIS OF THE BRAIN. International Journal of Modern Physics E, 2008, 17, 930-939.	0.4	10
38	Fluctuations in Hertz chains at equilibrium. Physical Review E, 2017, 95, 032903.	0.8	10
39	Dynamics of an anharmonic oscillator that is harmonically coupled to a many-body system and the notion of an appropriate heat bath. Physical Review E, 1998, 57, 224-229.	0.8	9
40	Spin Brazil-nut effect and its reverse in a rotating double-walled drum. European Physical Journal E, 2013, 36, 9855.	0.7	9
41	Rich collision dynamics of soft and sticky crystalline nanoparticles: Numerical experiments. Physical Review E, 2015, 92, 032403.	0.8	9
42	Impact Dispersion Using 2D and 3D Composite Granular Packing. KONA Powder and Particle Journal, 2017, 34, 248-257.	0.9	9
43	Preferred frequencies for three unconsolidated earth materials. Applied Physics Letters, 2007, 91, 254103.	1.5	8
44	Mechanical energy fluctuations in granular chains: The possibility of rogue fluctuations or waves. Physical Review E, 2014, 90, 032904.	0.8	8
45	The equilibrium phase in heterogeneous Hertzian chains. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 123204.	0.9	8
46	Small nanoparticles, surface geometry and contact forces. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20170723.	1.0	8
47	Impulse Propagation in Granular Systems. AIP Conference Proceedings, 2003, , .	0.3	7
48	Nanoprinting with Nanoparticles: Concept of a Novel Inkjet Printer with Possible Applications in Invisible Tagging of Objects. Journal of Dispersion Science and Technology, 2005, 25, 523-528.	1.3	7
49	Early time evolution of a localized nonlinear excitation in the Î²-FPUT chain. International Journal of Modern Physics B, 2017, 31, 1742014.	1.0	6
50	On the generation and propagation of solitary waves in integrable and nonintegrable nonlinear lattices. European Physical Journal Plus, 2020, 135, 1.	1.2	6
51	Interactions of solitary waves in integrable and nonintegrable lattices. Chaos, 2020, 30, 043101.	1.0	6
52	Linearity stabilizes discrete breathers. Pramana - Journal of Physics, 2011, 77, 975-986.	0.9	5
53	Solitary wave propagation through two-dimensional treelike structures. Physical Review E, 2014, 89, 023209.	0.8	5
54	Decorated granular layers for impact decimation. Granular Matter, 2016, 18, 1.	1.1	5

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55	Impact decimation using alignment of granular spheres. International Journal of Modern Physics B, 2017, 31, 1742012.	1.0	5
56	SIMULINK MODELING FOR CIRCUIT REPRESENTATION OF GRANULAR CHAINS. Modern Physics Letters B, 2013, 27, 1350093.	1.0	4
57	Possibility of useful mechanical energy from noise: the solitary wave train problem in the granular chain revisited. Granular Matter, 2018, 20, 1.	1.1	4
58	PULSEDYNâ€"A dynamical simulation tool for studying strongly nonlinear chains. Computer Physics Communications, 2019, 239, 134-149.	3.0	4
59	An agent-based model of spread of a pandemic with validation using COVID-19 data from New York State. Physica A: Statistical Mechanics and Its Applications, 2022, 585, 126401.	1.2	4
60	Impulse acoustics based ejection of ferrofluid grains from a ferrofluid: the blueprint of a concept for a nozzle-free inkjet printer. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	3
61	Energy Absorption and Recovery in Tapered Granular Chains: Small Chains and Low Tapering. Materials Research Society Symposia Proceedings, 2002, 759, 1.	0.1	3
62	Dynamics of stochastic and nearly stochastic two-party competitions. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 1800-1810.	1.2	3
63	AGENT BASED STUDY OF SURPRISE ATTACKS: ROLES OF SURVEILLANCE, PROMPT REACTION AND INTELLIGENCE. Modern Physics Letters B, 2011, 25, 2279-2287.	1.0	3
64	Solitary waves and localized nonlinear excitations in the strongly nonlinear Î² -Fermi-Pasta-Ulam-Tsingou chain. Europhysics Letters, 2018, 123, 30005.	0.7	3
65	Decorated granular crystal as filter of low-frequency ultrasonic signals. Granular Matter, 2020, 22, 1.	1.1	3
66	Avalanche dynamics in model two-dimensional grain piles. Physical Review E, 1997, 56, 5759-5763.	0.8	2
67	Long-term behavior of Hertzian chains between fixed walls is really equilibrium. International Journal of Modern Physics B, 2017, 31, 1742011.	1.0	2
68	Controlled energy dispersion in two-dimensional decorated granular crystals. Physical Review E, 2018, 98, .	0.8	2
69	Head-on Collision of Solitary Waves Described by the Toda Lattice Model in Granular Chain. Chinese Physics Letters, 2020, 37, 074501.	1.3	2
70	Granular chains with fixed side decoration as impact protector and signals filter. Physical Review E, 2021, 103, 042904.	0.8	2
71	Impulse Backscattering based Detection and Imaging of Shallow Buried Objects. Materials Research Society Symposia Proceedings, 2002, 759, 1.	0.1	1
72	Acoustic interrogation of soil and possible remote detection of shallow buried inclusions. , 2007, , .		1

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73	WINNING A BATTLE: THE IMPORTANCE OF KNOWING THE â€œNEIGHBORHOODâ€• International Journal of Modern Physics E, 2008, 17, 924-929.	0.4	1
74	Simulation, modeling and dynamical analysis of multibody flows. International Journal of Modern Physics B, 2017, 31, 1742004.	1.0	1
75	Nonlinear normal modes in the Î²-Fermi-Pastaâ€“Ulam-Tsingou chain. Physica A: Statistical Mechanics and Its Applications, 2020, 553, 124283.	1.2	1
76	Backscattering of Nonlinear Acoustic Impulses from Buried Inclusions in Granular Beds. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	1
77	Impulse and Low Frequency Acoustic Wave Propagation in Granular Beds. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	1
78	2D Lattices on Substrates with Randomly Distributed Pinning Centers: A Possible Scaling Law for Domain Sizes. Materials Research Society Symposia Proceedings, 1996, 455, 441.	0.1	0
79	Nonlinear, Statistical and Applied Physics of Solitary Wave-like Objects in Granular Systems. , 2009, , .		0
80	Newtonian chimpanzees? A molecular dynamics approach to understanding decision-making by wild chimpanzees. , 2014, , 81-102.		0
81	Study of simple land battles using agent-based modeling: Strategy and emergent phenomena. International Journal of Modern Physics B, 2017, 31, 1742002.	1.0	0
82	Dynamics in a confined massâ€“spring chain with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1624" altimg="si5.svg"><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^•</mml:mo><mml:mi>r</mml:mi></mml:mrow></mml:math> repulsive potential: Strongly nonlinear regime. Physica A: Statistical Mechanics and Its Applications, 2020, 553, 124651.	k2	1
83	Quasi-stable localized excitations in the Î²-Fermi Pasta Ulam Tsingou system. Chaos, Solitons and Fractals, 2021, 150, 111194.	2.5	0
84	Solving the Liouville equation to probe relaxation in strongly nonlinear systems. International Journal of Modern Physics B, 0, , .	1.0	0
85	Foreword to this special issue. International Journal of Modern Physics B, 0, , .	1.0	0