Gorakh Nath

List of Publications by Year
in descending order

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79 papers	1,318 citations	331670 21 h-index	414414 32 g-index
81 all docs	81 docs citations	81 times ranked	76 citing authors

#	Article	IF	Citations
1	A self- similar solution of a shock propagation in a mixture of a non-ideal gas and small solid particles. Meccanica, 2009, 44, 239-254.	2.0	84
2	Similarity solutions for the flow behind an exponential shock in a non-ideal gas. Meccanica, 2007, 42, 331-339.	2.0	68
3	Magnetogasdynamic shock wave generated by a moving piston in a rotational axisymmetric isothermal flow of perfect gas with variable density. Advances in Space Research, 2011, 47, 1463-1471.	2.6	68
4	Similarity solutions for unsteady flow behind an exponential shock in a dusty gas. Physica Scripta, 2006, 74, 493-498.	2.5	57
5	Propagation of a strong cylindrical shock wave in a rotational axisymmetric dusty gas with exponentially varying density. Research in Astronomy and Astrophysics, 2010, 10, 445-460.	1.7	55
6	Similarity solutions for unsteady flow behind an exponential shock in an axisymmetric rotating non-ideal gas. Meccanica, 2015, 50, 1701-1715.	2.0	49
7	Propagation of a cylindrical shock wave in a rotating dusty gas with heat conduction and radiation heat flux. Physica Scripta, 2010, 81, 045401.	2.5	44
8	Similarity solution for the flow behind a shock wave in a non-ideal gas with heat conduction and radiation heat-flux in magnetogasdynamics. Communications in Nonlinear Science and Numerical Simulation, 2014, 19, 1347-1365.	3.3	43
9	Self-similar solutions for unsteady flow behind an exponential shock in an axisymmetric rotating dusty gas. Shock Waves, 2014, 24, 415-428.	1.9	36
10	Propagation of a strong spherical shock wave in a gravitating or non-gravitating dusty gas with exponentially varying density. Acta Astronautica, 2016, 123, 200-212.	3.2	36
11	Propagation of shock waves in a dusty gas with heat conduction, radiation heat flux and exponentially varying density. Physica Scripta, 2008, 78, 035402.	2.5	33
12	Propagation of a cylindrical shock wave in a rotational axisymmetric isothermal flow of a non-ideal gas in magnetogasdynamics. Ain Shams Engineering Journal, 2012, 3, 393-401.	6.1	33
13	Magnetogasdynamic spherical shock wave in a non-ideal gas under gravitational field with conductive and radiative heat fluxes. Acta Astronautica, 2016, 128, 377-384.	3.2	33
14	Similarity solution for a cylindrical shock wave in a rotational axisymmetric dusty gas with heat conduction and radiation heat flux. Communications in Nonlinear Science and Numerical Simulation, 2012, 17, 154-169.	3.3	30
15	Propagation of a spherical shock wave in mixture of non-ideal gas and small solid particles under the influence of gravitational field with conductive and radiative heat fluxes. Astrophysics and Space Science, 2016, 361, 1.	1.4	29
16	Self-similar solution of cylindrical shock wave propagation in a rotational axisymmetric mixture of a non-ideal gas and small solid particles. Meccanica, 2012, 47, 1797-1814.	2.0	28
17	Flow behind magnetogasdynamic exponential shock wave in self-gravitating gas. International Journal of Non-Linear Mechanics, 2017, 88, 102-108.	2.6	27
18	Similarity solutions for unsteady flow behind an exponential shock in a self-gravitating non-ideal gas with azimuthal magnetic field. Acta Astronautica, 2018, 142, 152-161.	3.2	27

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19	Propagation of exponential shock wave in an axisymmetric rotating non-ideal dusty gas. Indian Journal of Physics, 2016, 90, 1055-1068.	1.8	26
20	Spherical shock wave generated by a moving piston in mixture of a non-ideal gas and small solid particles under a gravitational field. Communications in Nonlinear Science and Numerical Simulation, 2012, 17, 2382-2393.	3.3	24
21	Similarity solution for the flow behind a cylindrical shock wave in a rotational axisymmetric gas with magnetic field and monochromatic radiation. Ain Shams Engineering Journal, 2018, 9, 1151-1159.	6.1	22
22	Shock wave driven out by a piston in a mixture of a non-ideal gas and small solid particles under the influence of the gravitation field with monochromatic radiation. Chinese Journal of Physics, 2018, 56, 2741-2752.	3.9	22
23	Cylindrical shock wave generated by a moving piston in a rotational axisymmetric non-ideal gas with conductive and radiative heat-fluxes in the presence of azimuthal magnetic field. Acta Astronautica, 2019, 156, 100-112.	3.2	21
24	Self-similar solution for the flow behind an exponential shock wave in a rotational axisymmetric non-ideal gas with magnetic field. Chinese Journal of Physics, 2019, 58, 280-293.	3.9	19
25	Flow behind an exponential shock wave in a rotational axisymmetric perfect gas with magnetic field and variable density. SpringerPlus, 2016, 5, 1509.	1.2	18
26	Approximate analytical solution for shock wave in rotational axisymmetric perfect gas with azimuthal magnetic field: Isothermal flow. Journal of Astrophysics and Astronomy, 2019, 40, 1.	1.0	17
27	Flow behind an exponential shock in a rotational axisymmetric mixture of non-ideal gas and small solid particles with heat conduction and radiation heat flux. Acta Astronautica, 2018, 148, 355-368.	3.2	16
28	Self-similar flow behind a spherical shock wave in a non-ideal dusty gas under a gravitational field: Isothermal flow. Advances in Space Research, 2013, 52, 1304-1313.	2.6	15
29	Propagation of magnetogasdynamic shock waves in a self-gravitating gas with exponentially varying density. Journal of Theoretical and Applied Physics, 2013, 7, 15.	1.4	14
30	Self-similar Solution of a Cylindrical Shock Wave under the Action of Monochromatic Radiation in a Rotational Axisymmetric Dusty Gas. Communications in Theoretical Physics, 2017, 67, 327.	2.5	14
31	Propagation of a cylindrical shock wave in a mixture of a non-ideal gas and small solid particles under the action of monochromatic radiation. Combustion, Explosion and Shock Waves, 2017, 53, 298-308.	0.8	14
32	Flow Behind an Exponential Shock Wave in a Rotational Axisymmetric Non-ideal Gas with Conduction and Radiation Heat Flux. International Journal of Applied and Computational Mathematics, 2017, 3, 2785-2801.	1.6	14
33	A Self-Similar Flow behind a Magnetogasdynamic Shock Wave Generated by a Moving Piston in a Gravitating Gas with Variable Density: Isothermal Flow. Research Letters in Physics, 2011, 2011, 1-8.	0.2	13
34	Self-similar solution for cylindrical shock waves in a weakly conducting dusty gas. Ain Shams Engineering Journal, 2018, 9, 1717-1730.	6.1	13
35	Approximate analytical solution for the propagation of shock waves in self-gravitating perfect gas via power series method: isothermal flow. Journal of Astrophysics and Astronomy, 2020, 41, 1.	1.0	13
36	Analytical solution for unsteady flow behind ionizing shock wave in a rotational axisymmetric non-ideal gas with azimuthal or axial magnetic field. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2021, 76, 265-283.	1.5	13

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37	Self-similar flow of a rotating dusty gas behind the shock wave with increasing energy, conduction and radiation heat flux. Advances in Space Research, 2012, 49, 108-120.	2.6	12
38	Unsteady isothermal flow behind a magnetogasdynamic shock wave in a self-gravitating gas with exponentially varying density. Iranian Physical Journal, 2014, 8, 1.	1.2	11
39	Propagation of strong cylindrical shock wave in a self-gravitating rotational axisymmetric mixture of small solid particles and perfect gas with density varying exponentially. Acta Astronautica, 2019, 162, 447-460.	3.2	11
40	Similarity solutions using Lie group theoretic method for cylindrical shock wave in self-gravitating perfect gas with axial magnetic field: isothermal flow. European Physical Journal Plus, 2020, 135, 1.	2.6	11
41	Cylindrical ionizing shock waves in a self-gravitating gas with magnetic field: Power series method. Journal of Astrophysics and Astronomy, 2019, 40, 1.	1.0	10
42	Similarity solutions for magnetogasdynamic cylindrical shock wave in rotating ideal gas using Lie Group theoretic method: Isothermal flow. International Journal of Geometric Methods in Modern Physics, 2020, 17, 2050123.	2.0	10
43	Similarity solutions for magnetogasdynamic shock waves in aÂrotating ideal gas using the Lie group-theoretic method. Journal of Engineering Mathematics, 2021, 126, 1.	1.2	10
44	Cylindrical shock wave in a self-gravitating perfect gas with azimuthal magnetic field via Lie group invariance method. International Journal of Geometric Methods in Modern Physics, 2020, 17, 2050148.	2.0	9
45	A self-similar solution for unsteady adiabatic and isothermal flows behind the shock wave in a non-ideal gas using Lie group analysis method with azimuthal or axial magnetic field in rotating medium. European Physical Journal Plus, 2021, 136, 1.	2.6	9
46	Magnetohydrodynamic Cylindrical Shock in a Rotational Axisymmetric Non-Ideal Gas Under the Action of Monochromatic Radiation. Procedia Engineering, 2015, 127, 1126-1133.	1.2	8
47	Unsteady Adiabatic Flow Behind a Cylindrical Shock in a Rotational Axisymmetric Non-Ideal Gas Under the Action of Monochromatic Radiation. Procedia Engineering, 2016, 144, 1226-1233.	1.2	8
48	Similarity solutions for cylindrical shock wave in rotating ideal gas with or without magnetic field using Lie group theoretic method. European Physical Journal Plus, 2020, 135, 1.	2.6	8
49	Propagation of shock wave in a rotational axisymmetric ideal gas with density varying exponentially and azimuthal magnetic field: isothermal flow. Indian Journal of Physics, 2021, 95, 163-175.	1.8	8
50	Cylindrical shock wave propagation in a self-gravitating rotational axisymmetric perfect gas under the influence of azimuthal or axial magnetic field and monochromatic radiation with variable density. Pramana - Journal of Physics, 2021, 95, 1.	1.8	8
51	Spherical Shock Generated by a Moving Piston in a Nonideal Gas under Gravitation Field with Monochromatic Radiation and Magnetic Field. Journal of Engineering Physics and Thermophysics, 2020, 93, 911-923.	0.6	7
52	Analytical solution for unsteady adiabatic and isothermal flows behind the shock wave in a rotational axisymmetric mixture of perfect gas and small solid particles. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2021, 76, 853-873.	1.5	7
53	An exact solution for the propagation of cylindrical shock waves in a rotational axisymmetric non-ideal gas with axial magnetic field and radiative heat flux. Modelling, Measurement and Control B: Solid and Fluid Mechanics and Thermics, Mechanical Systems, 2018, 87, 236-243.	0.4	7
54	Exact Solution for a Magnetogasdynamical Cylindrical Shock Wave in a Self-Gravitating Rotating Perfect Gas with Radiation Heat Flux and Variable Density. Journal of Engineering Physics and Thermophysics, 2018, 91, 1302-1312.	0.6	6

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55	Similarity solution for magnetogasdynamic shock wave in a perfectly conducting dusty gas with axial or azimuthal magnetic field in rotating medium under the influence of radiative and conductive heat fluxes. Acta Astronautica, 2021, 182, 599-610.	3.2	6
56	Exponential shock wave in perfectly conducting self-gravitating rotational axi-symmetric dusty gas with magnetic field, radiative and conductive heat fluxes. Physics of Fluids, 2021, 33, .	4.0	6
57	Exact Similarity Solution for the Propagation of Spherical Shock Wave in a van der Waals Gas with Azimuthal Magnetic Field, Radiation Heat Flux, Radiation Pressure and Radiation Energy Under Gravitational Field. Proceedings of the National Academy of Sciences India Section A - Physical Sciences, 2020, 90, 789-801.	1.2	5
58	Flow behind an exponential shock wave in a perfectly conducting mixture of micro size small solid particles and non-ideal gas with azimuthal magnetic field. Chinese Journal of Physics, 2022, 77, 2408-2424.	3.9	5
59	Propagation of ionizing shock wave in a dusty gas medium under the influence of gravitational and azimuthal magnetic fields. Physics of Fluids, 2022, 34, .	4.0	5
60	Cylindrical shock waves in rotational axisymmetric non-ideal dusty gas with increasing energy in presence of conductive and radiative heat fluxes. Ain Shams Engineering Journal, 2015, 6, 1053-1068.	6.1	4
61	An Exact Solution for the Propagation of Shock Waves in Self-Gravitating Perfect Gas in the Presence of Magnetic Field and Radiative Heat Flux. Modelling, Measurement and Control B: Solid and Fluid Mechanics and Thermics, Mechanical Systems, 2017, 86, 907-927.	0.4	4
62	Approximate analytical solution for ionizing cylindrical shock wave in rotational axisymmetric non-ideal gas: isothermal flow. Canadian Journal of Physics, 2020, 98, 1077-1089.	1.1	4
63	Magnetogasdynamic Shock Waves in Non-ideal Gas Under Gravitational Field-Isothermal Flow. International Journal of Applied and Computational Mathematics, 2017, 3, 225-238.	1.6	3
64	Magnetogasdynamic shock waves in a rotating axisymmetric non-ideal gas with increasing energy, conductive, and radiative heat fluxes. Indian Journal of Physics, 2020, 94, 811-822.	1.8	3
65	Magnetogasdynamic shock wave propagation using the method of group invariance in rotating medium with the flux of monochromatic radiation and azimuthal magnetic field. International Journal of Nonlinear Sciences and Numerical Simulation, 2024, 24, 2981-2999.	1.0	3
66	Approximate analytical solution for the propagation of shock wave in a mixture of small solid particles and non-ideal gas: isothermal flow. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2022, 77, 191-206.	1.5	3
67	A self-similar solution for shock waves in conducting rotating non-ideal dusty gas medium with monochromatic radiation and magnetic field. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2022, 77, 379-401.	1.5	3
68	Magnetogasdynamic Shock Waves in a Rotating Gas with Exponentially Varying Density. ISRN Mathematical Analysis, 2012, 2012, 1-11.	0.4	2
69	On the Blast Wave Propagation and Structure in a Rotational Axisymmetric Perfect Gas. Proceedings of the National Academy of Sciences India Section A - Physical Sciences, 2022, 92, 167-178.	1.2	2
70	Approximate Analytical Solution for Ionizing Cylindrical Magnetogasdynamic Shock Wave in Rotational Axisymmetric Self-Gravitating Perfect Gas: Isothermal Flow. Differential Equations and Dynamical Systems, 2024, 32, 171-197.	1.0	2
71	Exact and Numerical Solution Using Lie Group Analysis for the Cylindrical Shock Waves in a Self-Gravitating Ideal Gas with Axial Magnetic Field. International Journal of Applied and Computational Mathematics, 2021, 7, 1.	1.6	2
72	Nonsimilar Solution for Shock Waves in a Rotational Axisymmetric Perfect Gas with a Magnetic Field and Exponentially Varying Density. Journal of Engineering Physics and Thermophysics, 2017, 90, 187-197.	0.6	1

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73	Exact Solution for an Unsteady Isothermal Flow Behind a Cylindrical Shock Wave in a Rotating Perfect Gas with an Axial Magnetic Field and Variable Density. Journal of Engineering Physics and Thermophysics, 2020, 93, 1538-1547.	0.6	1
74	An Exact Solution for Magnetogasdynamic Shock Wave Generated by a Moving Piston Under the Influence of Gravitational Field with Radiation Flux: Roche Model. Lecture Notes in Mechanical Engineering, 2021, , 529-541.	0.4	1
75	Analytical Solution for the Propagation of Shock Waves in a Rotating Medium: Power Series Solution. Journal of Engineering Physics and Thermophysics, 2022, 95, 152-162.	0.6	1
76	Exact solutions of shock waves in non-ideal gas with magnetic field and radiation flux under the influence of gravitational field. , 2017, , .		0
77	Flow behind an exponential cylindrical shock in a rotational axisymmetric mixture of small solid particles of micro size and non-ideal gas with conductive and radiative heat fluxes. Proceedings of the International Astronomical Union, 2018, 14, 419-419.	0.0	0
78	Exact Solution for Isothermal Flow behind a Shock Wave in a Self-Gravitating Gas of Variable Density in an Azimuthal Magnetic Field. Journal of Engineering Physics and Thermophysics, 2020, 93, 1247-1254.	0.6	0
79	Propagation of shock wave in a non-ideal dusty gas in rotating medium using Lie group theoretic method: Isothermal flow. International Journal of Geometric Methods in Modern Physics, 0, , .	2.0	0