Publications: 102 (75-SCI +08-ESCI+ 8-SCI Mago + 04- Non-SCI+ 05- Int. Conf.+ 02- Book Chapter) - (Quartile:Q1-27+ Q2-28 + Q3-31+ Q4-5)

A1: Papers in refereed international journals:

2024-2023

1. **G. Nath,** A self-similar solution for the flow behind an exponential shock wave in a self-gravitating rotational axisymmetric mixture of non-ideal gas and small solid particles, **Chin. Journal of Physics 84 (2023) 451-470, IF = 5, SCI, Elsevier, Quartile:Q2**
2. **G. Nath,** V. K. Shivajirav, Lie group transformation method for shock wave in a rotating non-ideal gas with or without axial magnetic field, and interaction of characteristic shock with weak discontinuity, **Phys. Fluids 35, 096112 (2023), https://doi.org/10.1063/5.0164353, Impact Factor = 4.98, SCI, AIP , Quartile:Q1**
3. **G. Nath,** Arti Devi, Optimal classification and similarity solution for unsteady flows behind a shock wave in a dusty gas with magnetic field using the group invariance method, **Int. J. Nonlin. Mechanics 154 (2023) 104443, Impact Factor = 3.336, Elsevier, SCI, Quartile:Q1**
4. **G. Nath,** Arti Devi, Similarity solution using group theoretic method for unsteady flow behind shock wave in a self-gravitating dusty gas, **Int. J. Nonlin. Mechanics 148 (2023) 104254, Impact Factor = 3.336, Elsevier, SCI, Quartile:Q1**
5. **G. Nath**, V. S. Kadam, Evolution of acceleration waves in non-ideal relaxing gas subjected to the transverse magnetic field, **J. Eng. Math. (2024) https://doi.org/10.1007/s10665-024-10345-3, Impact Factor =1.444, SCI, Springer, Quartile:Q2**
6. **G. Nath**, V. S. Kadam, Lie symmetry analysis and optimal system for shock wave in a self-gravitating rotating ideal gas under the effect of magnetic field and monochromatic radiation, **Int.J.Geom. Methods in Modern Phys. 21(03) (2024), Article No. 2450058,** https://doi.org/10.1142/S0219887824500580, **Impact Factor =2.1, SCI**, World Scientific Journal**, Quartile:Q2**
7. **G. Nath,** P. Upadhyay, Evaluation of weak discontinuity in rotating medium with magnetic field, characteristic shock and weak discontinuity interaction, **Z.**

Naturforsch. vol:79 iss:04 (2024), DOI: 10.1515/ZNA-2023-0275, **Impact Factor =1.8, SCI,** Published by: Walter De Gruyter GmbH **, Quartile:Q3**

8. V. S. Kadam, **G. Nath**, Propagation of shock waves in a weakly Conducting non-Ideal gas in presence of azimuthal and axial components of magnetic induction using Lie Group invariance method, **J. Eng. Phys. Thermophy (2024), accepted 12 Jan. 2024, Springer, ESCI, Impact Factor = 0.60, In press, Quartile:Q3**

9. A. Maurya, **G. Nath,** Group invariance method for spherical shock wave in a non-ideal gas under the influence of gravitational and azimuthal magnetic fields **(accepted June 24, 2024, Pro. Nat. Acad. Sci A 24 Feb. 2023), I.F.=1.291, SCI, Quartile:Q3**

10. **G. Nath,** V. S. Kadam, Similarity Solution for magnetogasdynamic shock waves in weakly conducting perfect gas by Lie group invariance method **Symmetry (2023), 15, 1640. https://doi.org/10.3390/sym15091640, SCI, I.F. = 2.7, Quartile:Q2**

11. G. Nath, P. Upadhya, Lie symmetry approach for shock propagation in a self-gravitating non-ideal gas under the influence of monochromatic radiation and magnetic field in rotating medium, **Indian J. Phys. (2024), DOI:**10.1007/s12648-024-03352-8, **Springer, Impact Factor = 2, SCI, In press, Quartile:Q3**

12. G. Nath, A. Maurya, Magnetogasdynamic shock waves in a non-ideal self-gravitating gas using group theoretic method, **Engineering Computation 40 (2023) 2510-2532, DOI: 10.1108/EC-03-2023-0110, Impact Factor =1.67, SCIE, Emerald Publishing, Quartile:Q2**

13. G. Nath, Arti Devi, Shock wave propagation in rotational axisymmetric dusty gas for adiabatic flow using group invariance method, **Waves in Random and Complex Media (2023**), https://doi.org/10.1080/17455030.2023.2225635. **Impact Factor = 4.051, SCI, Taylor & Francis , Quartile:Q1**

14. G. Nath, A. Maurya, Optimal system of solution using group invariance technique for shock wave in a non-ideal self-gravitating gas in rotating medium, **Z. Naturforsch. vol:78 (2023), DOI: 10.1515/ZNA-2023-0026, Impact Factor =2.1, SCI,** Published by: Walter De Gruyter GmbH **Quartile:Q3**

15. G. Nath, Analytical solution for unsteady adiabatic flow behind the blast wave in a non-ideal gas and small inert solid particles mixture, **Proc. Natl. Acad. Sci., India,**

Sect. A Phys. Sci. 93(2)(2023) 279–292, https://doi.org/10.1007/s40010-023-00811-5, **I.F.=1.291, SCI, Springer, Quartile:Q3**

2022

16. **G Nath,** Propagation of ionizing shock wave in a dusty gas medium under the influence of gravitational and magnetic fields, **Phys. Fluids 34, 083307 (2022),** https://doi.org/10.1063/5.0094327, **Impact Factor = 4.98, SCI, AIP , Quartile:Q1**
17. **G. Nath,** 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 77 (2022) 2408–2424, IF = 5, SCI, Elsevier,** https://doi.org/10.1016/j.cjph.2021.11.006, **Quartile:Q2**
18. **G. Nath,** Arti Devi, Propagation of shock wave in a non-ideal dusty gas in rotating medium using Lie group theoretic method: Isothermal flow, **Int.J.Geom. Methods in Modern Phys. 19 (11) 2250165(2022), Impact Factor =2.1, SCI,** World Scientific Journal) **, Quartile:Q2**
19. **G. Nath,** Approximate analytical solution for the propagation of shock wave in a mixture of small solid particles and non-ideal gas: Isothermal flow, **Z. Naturforsch. vol:77 iss:2 (2022), 191-206,** DOI: 10.1515/ZNA-2021-0196, **Impact Factor =1.8, SCI,** Published by: Walter De Gruyter GmbH**, Quartile:Q3**
20. **G. Nath,** A. Kaur, S. Chaurasia, On the blast wave propagation and structure in a rotational axisymmetric perfect gas, **Proc. Nac.Acad. Section-A 92 (2022)**, **167–178,** https://doi.org/10.1007/s40010-021-00737-w, **Impact Factor = 1.291, SCI,** Springer, **Quartile:Q3**
21. **G. Nath,** Analytical solution for the propagation of shock waves in a rotating medium: Power series solution, **J. Eng. Phys. Thermophy 95 (2022), Springer, ESCI,** https://doi.org/10.1007/s10891-022-02463-5, **Impact Factor = 0.60, Quartile:Q3**
22. **G. Nath,** A self-similar solution for piston generated magnetogasdynamic shock wave in a perfectly conducting dusty gas in rotating medium with the flux of monochromatic radiation, **Z. Naturforsch. vol:77 iss:4 (2022) 379-401**, DOI: 10.1515/ZNA-2021-0196, **Impact Factor =1.8, SCI,** Published by: Walter De Gruyter GmbH**, Quartile:Q3**

2021

23. **G. Nath,** Exponential shock wave in perfectly conducting self-gravitating rotational axi-symmetric dusty gas with magnetic field, radiative and conductive heat fluxes **Phys. Fluids 33(10), 103324 (2021); DOI: 10.1063/5.0064268, Impact Factor = 4.98, SCI, AIP, Quartile:Q1**
24. **G. Nath,** Similarity solution for magnetogasdynamic shock wave in a perfectly conducting dusty gas in rotating medium with axial or azimuthal magnetic field and increasing energy in presence of conductive and radiative heat fluxes, **Acta Astronatica 182 (2021) 599-610**, **Impact Factor = 3.5, SCI,** Elsevier Science**, Quartile:Q1**
25. **G Nath,** 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 - J Phys (2021) 95:149** https://doi.org/10.1007/s12043-021-02160-7, **Impact Factor = 2.8, SCI, Springer, Quartile:Q2**
26. **G. Nath,** Sumeeta Singh**,** Similarity solutions for magnetogasdynamic shock wave in rotating ideal gas using Lie group theoretic method**, J. Eng. Math. 126, 9 (2021),** DOI: 10.1007/s10665-020-10073-4, **Impact Factor =1.444, SCI, Springer, Quartile:Q2**
27. **G. Nath,** Propagation of shock wave in a rotational axisymmetric ideal gas with density varying exponentially and azimuthal magnetic field: Isothermal flow, **Indian J. Phys. 95, 163-175 (2021)** DOI: 10.1007/s12648-020-01684-9; **Springer, Impact Factor = 2, SCI , Quartile:Q3**
28. **G. Nath,** Arti Devi, MHD 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)*** **online March 2021, vol.24, no.8, (2023), pp. 2981-2999,** DOI: 10.1515/ijnsns2020-0227, Published by: Walter De Gruyter GmbH, **Impact Factor =2.156, SCI , Quartile:Q2**
29. **G. Nath,** Arti Devi, Exact and numerical solutions using Lie group theoretic method for the cylindrical shock waves in a self-gravitating ideal gas with axial magnetic

field, **Int. J. Appl. Com. Maths, 7, 61 (2021),** DOI:10.1007/s40819-021-00968-w, **SCI Mago**, Springer**, Quartile:Q3**

30. **G. Nath,** Arti Devi, A self-similar solution for unsteady adiabatic and isothermal flows headed by a shock wave in non-ideal gas using Lie group analysis with azimuthal or axial magnetic field in rotating medium, **Eur. Phys.J. Plus 136 (2021), 477,** https://doi.org/10.1140/epjp/s13360-021-01476-y, **Impact Factor = 3.758, SCI, Springer, Quartile:Q2**
31. **G. Nath,** Sumeeta Singh, Approximate analytical solution for ionizing cylindrical magnetogasdynamic shock wave in rotational axisymmetric self-gravitating perfect gas: Isothermal flow, **Differential Equations and Dynamical Systems (2021),** https://doi.org/10.1007/s12591-021-00566-8, **Impact Factor =1.0, ESCI, Springer, Quartile:Q3**
32. **G. Nath,** Analytical solution for unsteady flow behind ionizing shock wave in a rotational axisymmetric non-ideal gas with axial or azimuthal magnetic field, **Z. Naturforsch. vol:76 (2021) 265-283**, **iss:03** DOI: 10.1515/ZNA-2020-0248, **Impact Factor =1.8, SCI,** Published by: Walter De Gruyter GmbH **, Quartile:Q3**
33. **G Nath,** Analytical solution for unsteady adiabatic and isothermal flows behind the shock wave in a rotational axisymmetric mixture of perfect gas and small solid particles, **Z. Naturforsch. vol:76 iss:09 (2021) p. 853-873**, DOI: 10.1515/ZNA-2021-0022, **Impact Factor =1.8, SCI,** Published by: Walter De Gruyter **, Quartile:Q3**

2020

34. **G. Nath,** Sumeeta Singh**,** Similarity solutions using Lie-group theoretic method for cylindrical shock wave in a self-gravitating perfect gas with axial magnetic field: Isothermal flow, **Eur. Phys. J. Plus 135, 316 (2020), Impact Factor =3.758, SCI, Springer,** https://doi.org/10.1140/epjp/s13360-020-00292-0**, Quartile:Q2**
35. **G. Nath,** Sumeeta Singh**,** Similarity solutions for magnetogasdynamic cylindrical shock wave in rotating ideal gas using Lie group theoretic method: Isothermal flow **Int. J. Geom. Methods in Modern Phys.** Vol. 17, No. 8 (2020) 2050123 (25 pages),

DOI: 10.1142/S0219887820501236, **Impact Factor =2.1, SCI** World Scientific J. **, Quartile:Q2**

36. **G. Nath,** M. Dutta, R. P. Pathak, 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, **Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci. (2020) 90**:789-801; DOI 10.1007/s40010-019-00625-4, **Impact Factor = 1.291, SCI, Springer, Quartile:Q3**
37. **G. Nath,** Spherical shock generated by a moving piston in non-ideal gas under gravitation field with monochromatic radiation and magnetic field, **J. Eng. Phys. Thermophys. 93(4) (2020),** 911-923, **Impact Factor = 0.6,** Springer, **ESCI, , Quartile:Q3**
38. **G. Nath,** M. Dutta, S. Chaurasia, Exact solution for isothermal flow behind a shock wave in a self-gravitating gas with variable density and azimuthal magnetic field**, J. Eng. Phys. Thermophys. 93(5) (2020),** 1247-1254, **Impact Factor = 0.6,** Springer, **ESCI, Quartile:Q3**
39. **G. Nath,** Magnetogasdynamic shock waves in a rotating axisymmetric non-ideal gas with increasing energy, conductive and radiative heat-fluxes, **Indian J. Phys. (2020), 94, 811-822**, **DOI: 10.1007/s12648-019-01511-w, Springer, Impact Factor = 2, SCI , Quartile:Q3**
40. **G. Nath,** Sumeeta Singh, Approximate analytical solution for ionizing cylindrical shock wave in rotational axisymmetric non-ideal gas: Isothermal flow, **Canadian Journal of Physics 98(11) (2020)** 1077-1089, DOI:10.1139/cjp-2019-0426, **Impact Factor =1.358, SCI, NRC Research Press, Quartile:Q3**
41. **G. Nath,** Approximate analytical solution for the propagation of shock waves in self-gravitating perfect gas via power series method: Isothermal flow, **J. Astrophys. Astr. (2020) 41:21,** https://doi.org/10.1007/s12036-020-09638-7 **SCI, Impact Factor = 1.61, Springer, Quartile:Q3**
42. **G. Nath,** Arti Devi, Cylindrical shock waves in a self-gravitating perfect gas with azimuthal magnetic via Lie group theoretic method, **Int.J.Geom. Methods in Modern Phys. 17 (10), 2050148 (2020),** Impact Factor =2.1, SCI, World Scientific Journal, https://doi.org/10.1142/S0219887820501480**, Quartile:Q2**

43. **G. Nath,** Exact solution for unsteady isothermal flow behind a cylindrical shock wave in a rotating perfect gas with axial magnetic field and variable density, **J. Eng. Phys. Thermophys. 93(6) (2020), 1538-1547**, https://doi.org/10.1007/s10891-020-02258-6, **Impact Factor = 0.6,** Springer, **ESCI, , Quartile:Q3**
44. **G. Nath,** S. Singh**,** Similarity solutions for cylindrical shock wave in rotating ideal gas with or without magnetic field using Lie group theoretic method, **Eur. Phys. J. Plus 135, 929 (2020),** DOI: 10.1140/epjp/s13360-020-00946-z, **Impact Factor = 3.758, SCI, Springer, Quartile:Q2**

2019

45. **G. Nath,** 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 Astronatica 156 (2019), 100-112**. https://doi.org/10.1016/j.actaastro.2018.10.041, **Impact Factor =3.5, SCI,** Elsevier**, Quartile: Q1**
46. **G. Nath,** 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 Astronatica 162 (2019), 447-460**, **Impact Factor =3.5, SCI,** Elsevier Science, https://doi.org/10.1016/j.actaastro.2019.06.016**, Quartile:Q1**
47. **G. Nath,** Sumeeta Singh, Cylindrical ionizing shock waves in a self-gravitating gas with magnetic field: Power series method, **J Astrophys Astron (2019) 40:47,** https://doi.org/10.1007/s12036-019-9615-0**, SCI, Springer**, **Impact Factor = 1.61, Quartile:Q3**
48. **G. Nath,** P. K. Sahu, S. Chaurasia, 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 58 (2019) 280-293, Impact Factor =5, SCI Elsevier, DOI:10.1016/j.cjph.2019.02.007, Quartile:Q2**
49. **G. Nath,** Sumeeta Singh, Approximate analytical solution for shock wave in rotational axisymmetric perfect gas with azimuthal magnetic field: Isothermal flow **J. Astrophys.Astr. (2019) 40:50**, **https://doi.org/10.1007/s12036-019-9616-z, SCI, Impact Factor = 1.61, Springer, Quartile:Q3**

2018

50. J. P. Vishwakarma, **G. Nath,** R. Kumar Srivastava, Self-similar solution for cylindrical shock waves in a weakly conducting dusty gas, **Ain Shams Eng. J. 9 (4) (2018) 1717-1730,** http://dx.doi.org/10.1016/j.asej.2016.09.013, Elsevier Science **Impact Factor = 6, SCI , Quartile:Q1**

51. G. Nath, P. K. Sahu**,** Similarity solution for the flow behind a cylindrical shock under the action of monochromatic radiation in a rotational axisymmetric perfect gas with magnetic field, **Ain Shams Eng. J. 9(4) 2018, 1151- 1159, Elsevier Science , http://dx.doi.org/10.1016/j.asej.2016.06.00, Impact Factor = 6, SCI**, **Quartile:Q1**

52. G. Nath, 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 Astronatica 148 (2018), 355-368**, Elsevier, **Impact Factor =3.5, SCI, Quartile:Q1**

53. G. Nath, Sumeeta Singh & P. Srivastava, An exact solution for magnetogasdynamic cylindrical shock wave in a self-gravitating rotating perfect gas with radiation heat flux and variable density, **J.Eng. Phys.Thermophys. 91(5) (2018)** 1302-1312, DOI 10.1007/s10891-018-1862-4, **Impact Factor = 0.6,** Springer, **ESCI, , Quartile:Q3**

54. G. Nath, P. K. Sahu, S. Chaurasia, 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, **AMSE JOURNALS-AMSE IIETA publication-2018-Series: Modelling B; Vol. 87 ; N°4; pp 236-243, AMSE Press, France, SCI Mago http://iieta.org/Journals/MMC/MMC_B; https://doi.org/10.18280/mmc_b.870404, Quartile:Q4**

55. G. Nath, Exact similarity solution for unsteady isothermal flow behind a shock wave in self-gravitating non-ideal gas, **Modelling, Measurement and Control B, Vol. 88, No. 2-4 (2019) 67-72.** https://doi.org/10.18280/mmc_b.882, **AMSE Press, France, Journal homepage: http://iieta.org/journals/mmc_a, SCI Mago, Quartile:Q4**

56. G. Nath, Exact self-similar solution for shock wave in a non-ideal gas with azimuthal magnetic field under isothermal flow condition, **Modelling, Measurement and Control B Vol. 88, No. 2-4 (2019) 134-140, https://doi.org/10.18280/mmc_b.882-**

412 **J. homepage: http://iieta.org/journals/mmc_a, AMSE Press, France, SCI Mago, Quartile:Q4**

57. **G. Nath,** Shock wave driven out by a piston in mixture of non-ideal gas and small solid particles under the influence of gravitation field with monochromatic radiation, **Chinese Journal of Physics 56 (2018) 2741–2752, Impact Factor = 5, SCI**, Elsevier, https://doi.org/10.1016/j.cjph.2018.09.033, **Quartile:Q2**
58. **G. Nath,** R. P. Pathak, M. Dutta, Similarity solutions for unsteady flow behind an exponential shock in a self- gravitating non-ideal gas with azimuthal magnetic field, **Acta Astronatica 142 (2018), 152-161,** Elsevier, **Impact Factor =3.5, SCI, Quartile:Q1**

2017

59. **G. Nath,** P. K. Sahu, Flow behind an exponential shock wave in a rotational axisymmetric non-ideal gas with conduction and radiation heat flux, **Int. J. Appl. Comput. Math. 3(4) (2017), 2785-2801**, **DOI: 10.1007/s40819-016-0260-x, SCI Mago**, Springer**, Quartile:Q3**
60. **G. Nath,** Sumeeta Singh, Flow behind magnetogasdynamic exponential shock wave in self-gravitating gas, **Int. J. Nonlin. Mechanics 88 (2017), 102-108,** DOI:**10.1016/j.ijnonlinmec.2016.11.001,** Impact Factor = **3.336**, Elsevier, SCI **, Quartile:Q1**
61. **G. Nath**, A. K. Sinha, Non-similarity solution for shock waves in a rotational axisymmetric gas with magnetic field and density varying exponentially**, J. Eng. Phys. Thermophys. 90 (2017),187–197,** DOI: 10.1007/s10891-017-1555-4, **Impact Factor = 0.6,** Springer, **ESCI , Quartile:Q3**
62. **G. Nath**, A. K. Sinha, Magnetogasdynamic shock waves in non-ideal gas under gravitational field-isothermal flow**, Int. J. Appl. Comput. Math. 3 (2017), 225-238, DOI:10.1007/s40819-015-0101-3**, **SCI-Mago Springer, Quartile:Q3**
63. **G. Nath,** P. K. Sahu, 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 53 (2017), 298-308, Impact Factor = 1.2**, **Springer, SCI, Quartile:Q3**

64. **G. Nath,** M. Dutta, R. P. Pathak, An exact solution for the propagation of shock waves in self-gravitating medium in the presence of magnetic field and radiative heat flux **Modelling, Measurement and Control B Vol. 86; N° 4; (2017) pp 907-927,** http://iieta.org/Journals/MMC/MMC_B;**https://doi.org/10.18280/mmc_b.860406** AMSE Press, **France, SCI Mago , Quartile:Q4**
65. **G. Nath,** P. K. Sahu, Self-similar solution of a cylindrical shock wave under the action of monochromatic radiation in a rotational axisymmetric dusty gas, **Commun. Theor. Phys. 67 (2017), 327-336, Impact Factor =2.877, IOP, SCI, Quartile:Q2**

2016

66. **G. Nath,** 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) 361:31, DOI 10.1007/s10509-015-2615-X, Springer, Impact Factor =1.909, SCI, Quartile:Q3**
67. **G. Nath,** Propagation of exponential shock wave in an axisymmetric rotating non-ideal dusty gas, **Indian J. Phys.90 (2016), 1055-1068, DOI: 10.1007/s12648-016-0842-9, Springer, Impact Factor = 2, SCI , Quartile:Q3**
68. **G. Nath,** P. K. Sahu, Flow behind an exponential shock in a rotational axisymmetric perfect gas with magnetic field and variable density, **SpringerPlus (2016)5:1509;** DOI:10.1186/s40064-016-3119-z, **Impact Factor =0.982, SCIE,** Springer**, Quartile:Q1**
69. **G. Nath,** J. P. Vishwakarma**,** Propagation of a strong spherical shock wave in a gravitating or non-gravitating dusty gas with exponentially varying density, **Acta Astronatica 123(2016), 200-213.** Elsevier, **Impact Factor =3.5, SCI, Quartile:Q1**
70. **G. Nath,** J P Vishwakarma, Propagation of magnetogasdynamic spherical shock wave in a non-ideal gas under the influence of gravitational field with conductive and radiative heat fluxes, **Acta Astronatica 128 (2016), 377-384,** Elsevier, **Impact Factor =3.5, SCI,** http://dx.doi.org/10.2016/actaastro.2016.06.051**, Quartile:Q1**

2015

71. **G. Nath,** Cylindrical shock wave in a rotational axisymmetric non-ideal dusty gas with increasing energy in the presence of conductive and radiative heat fluxes, **Ain**

Shams Eng. J. 6 (2015), 1053-1068, DOI:10.1016/j.asej.2014.12.010, Elsevier Science, Impact Factor = 6, SCI, Quartile:Q1

72. **G. Nath,** Similarity solutions for unsteady flow behind an exponential shock in an axisymmetric rotating non-ideal gas **Meccanica 50 (2015), 1701-1715, Springer, Impact Factor =2.7, SCI, Quartile:Q2**

2014

73. **G. Nath,** Self-similar solution for unsteady flow behind an exponential shock in an axisymmetric rotating dusty gas, **Shock Waves (2014) 24:415-428, Springer, Impact Factor =1.903, SCI, Quartile:Q2**
74. **G. Nath,** Unsteady isothermal flow behind a magnetogasdynamic shock wave in a self-gravitating gas with exponentially varying density, **J. Theoretical and Applied Physics (2014) 8:331, DOI: 10.1007/s40094-014-0131-y, Impact Factor = 1.21, SCI, Springer, Quartile:Q1**
75. **G. Nath,** J. P. Vishwakarma, Similarity solutions for the flow behind the shock wave in a non-ideal gas with heat conduction and radiation heat flux in magnetogasdynamics**, Commun Nonlinear Sci Numer Simulat 19(2014)1347-1365, Impact Factor = 4.186, Elsevier Science, SCI, Quartile:Q1**

2013

76. **G. Nath,** J. P. Vishwakarma, V K Srivastava and A. K. Sinha, Propagation of magnetogasdynamic shock waves in a self-gravitating gas with exponentially varying density, **J. Theoretical and Applied Physics 2013, 7:15,** DOI: 10.1186/2251-7235-7-15**, Impact Factor = 1.21, Springer, Highly Accessed, SCI, Quartile:Q1**
77. **G Nath,** Self-similar flow behind a spherical shock wave in a non-ideal dusty gas under the gravitational field: isothermal flow, **Advances in Space Research 52(2013), 1304-1313, Elsevier Science, Impact Factor =2.8, SCI, Quartile:Q1**

2012

78. J. P. Vishwakarma, **G. Nath**, Similarity solution for a cylindrical shock wave in a rotational axisymmetric dusty gas with heat conduction and radiation heat flux, **Commun Nonlinear Sci Numer Simulat 17(2012) 154-169, Elsevier Science; Impact Factor = 4.186, SCI, Quartile:Q1**

79. J. P. Vishwakarma, **G. Nath**, Spherical shock wave generated by a moving piston in mixture of a non-ideal gas and small solid particles under a gravitational field, **Commun Nonlinear Sci Numer Simulat 17 (2012) 2382-2393. Impact Factor = 4.186, Elsevier Science, SCI, Quartile:Q1**

80. **G. Nath,** Self-similar flow of a rotating dusty gas behind the shock wave with increasing energy, conduction and radiation heat flux, **Advances in Space Research 49 (2012) 108–120, Elsevier Science. Impact Factor =2.8, SCI, Quartile:Q1**

81. **G. Nath,** Self-similar solution of cylindrical shock wave propagation in a rotational axisymmetric mixture of a non-ideal gas and small solid particles, **Meccanica 47(2012)1797-1814, Springer, Impact Factor =2.7, SCI, Quartile:Q2**

82. J. P. Vishwakarma, **G. Nath**, Magnetogasdynamic shock waves in a rotating gas with exponentially varying density**, International Scholarly Research Notices Vol. 2012**, **Article ID 168315, 11 pages, 2012, https://doi.org/10.5402/2012/168315**, **USA,**

83. **G. Nath,** Propagation of a cylindrical shock wave in a rotational axisymmetric isothermal flow of a non-ideal gas in magnetogasdynamics, **Ain Shams Eng. J. 3, 393-401(2012), Elsevier Science, Impact Factor = 6 , SCI , Quartile:Q1**

2011

84. **G. Nath**, Magnetogasdynamic shock wave generated by a moving piston in a rotational axisymmetric isothermal flow of perfect gas with variable density. **Advances in Space Research 47 (2011) 1463–1471, Elsevier Science. Impact Factor =2.8, SCI, Quartile:Q1**

85. **G. Nath,** A. K. Sinha, A self-similar flow behind a magnetogasdynamics shock wave generated by a moving piston in a gravitating gas with variable density: isothermal flow, **Physics Research International Vol. 2011, Article ID 782172, 8 pages**. **https://doi.org/10.1155/2011/782172, ISSN: 1687689X, 16876903, SCI Mago, Quartile:Q4**

2010

86. **G. Nath**, Propagation of a cylindrical shock wave in a rotational axisymetric dusty gas with exponentially varying density, **Research in Astron. Astrophys**. Vol. 10 (2010), 445–460, **IOP, U. K.; Impact Factor =1.889, SCI, Quartile:Q2**

87. J. P. Vishwakarma, **G. Nath**, Propagation of a cylindrical shock wave in a rotating dusty with heat conduction and radiation heat flux, **Physica Scripta, IOP, U.K**. **Vol. 81 (2010) 045401 (9pp) Impact Factor =3.081, SCI, Quartile:Q2**

2009-2006

88. J. P. Vishwakarma, **G. Nath**, Self-similar solution of a shock propagation in a mixture of a non-ideal gas and small solid particles, **Meccanica, Springer, Italy**, **Vol. 44 (2009), 239-254; Impact Factor =2.7, SCI, Quartile:Q2**

89. J. P. Vishwakarma, **G. Nath,** K.K. Singh, Propagation of shock waves in a dusty gas with heat conduction, radiation heat flux and exponentially varying density, **Physica Scripta, IOP, U.K.,Vol.78(2008) 035402 (11); Impact Factor =3.081, SCI, Quartile:Q2**

90. J. P. Vishwakarma, **G. Nath,** Similarity solutions for the flow behind an exponential shock in a non-ideal gas, **Meccanica, Springer, Italy**, Vol.42 (2007), 331-339; **Impact Factor =2.7, SCI, Quartile:Q2**

91. J. P. Vishwakarma, **G. Nath**, Propagation of shock waves in an exponential medium with heat conduction and radiation heat flux, **Modelling, Measurement and Control B** Vol.77 (3) (2008), 67-84, **ASME, France**, **SCI Mago, ISSN:** 12595969, **Quartile:Q4**

92. J. P. Vishwakarma, **G. Nath**, Converging detonation waves in a dusty gas, **Journal of Technical Physics, Polish Academy, Poland**, **Vol.47 Parts III (2006), 159-173**

93. J. P. Vishwakarma, **G. Nath**, Similarity solutions for unsteady flow behind an exponential shock in a dusty gas, **Physica Scripta, IOP, U.K**., **Vol.74 (2006), 493-498; Impact Factor =3.081, SCI, Quartile:Q2**

A2: Papers in refereed national journals: Non-SCI

94. Vinay Chaubey and **G. Nath**, Magnetogasdynamic shock waves in a non-ideal gas with radiation heat flux, ***J. Nat. Acad. Math. India*** **15 (2001), 45–57 (2006).**

95. G. Nath, Shock waves generated by a piston moving in a non-ideal gas in the presence of a magnetic field: isothermal flow, **South East Asian Journal of Mathematics and Mathematical Sciences, India**, **Vol .5 (2)(2007),69-83.**

A3: Paper in international conference proceeding:

96. **G. Nath,** P. K. Sahu and M. Dutta, Magnetohydrodynamic cylindrical shock in a rotational axisymmetric non-ideal gas under the action of monochromatic radiation,

Procedia Engineering 127(2015), 1126-1133, Elsevier, SCI Mago, DOI:10.1016/j.proeng.2015.11.476, ICCHMT-2015, 30 Nov. -2 Dec. 2015, NIT Warangal

97. **G. Nath** and P. K. Sahu, Unsteady adiabatic flow behind a cylindrical shock in a rotational axisymmetric non-ideal gas under the action of monochromatic radiation, **Procedia Engineering 144(2016),1226-1233, Elsevier, SCI Mago,** DOI:10.1016/j.proeng.2016.05.109,12th ICOVP, 14-17 Dec. 2015, IIT Guwahati

98. **G. Nath,** 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, Vol. 14(A30) 419-419, DOI: https://doi.org/10.1017/S1743921319005040 Published by Cambridge University Press: 03 March 2020**, **XXXth General Assembly of International Astronomical Union, Vienna, Austria, August 20-31, 2018**

99. **G. Nath, S**imilarity solution for unsteady isothermal flow behind a magnetogasdynamic shock wave in a gravitating gas with increasing energy and variable density, **WASET, 61, 1081-1089, 2012, Confrence Proceeding (VIII - Internal Conference on Fluid Mechanics, Heat Transfer and Thermodynamics, January 15- 17, 2012, Zurich, Switzerland)**

100. **G. Nath,** M. Dutta and R. P. Pathak, Exact solution of shock waves in non-ideal gas with magnetic field and radiation flux under the influence of the gravitational field, **Int. Conf. on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS), 2017, IEEE Xplore: 19 October 2017, Publisher: IEEE, Page-369 DOI:10.1109/AMIAMS.2017.8069241, ISBN:** 978-1-5090-5674-3 **Int. Conf.** Organized by Dept. of Mech. Eng., MNNIT Allahabad **on 03-05 Feb. 2017.**

B. Research paper published in book as chapter:

101. J. P. Vishwakarma and **G. Nath**, Cylindrical shock wave generated by a piston moving in a non-uniform self-gravitating rotational axisymmetric gas in the presence of conduction and radiation heat-flux, **Advances in Engineering Research Volume 2 Editor: Victoria M. Petrova PP. 539-580, ISBN#978-1-61324-709-9, Nova Publisher in March 2012, USA, Price $ 215**

102. G. Nath, S. Singh (2021) An Exact Solution for Magnetogasdynamic Shock Wave Generated by a Moving Piston Under the Influence of Gravitational Field with Radiation Flux: Roche Model. **In: Dutta S., Inan E., Dwivedy S.K. (eds) Advances**

in Structural Vibration. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-15-5862-7_43 Page: 529-541, eBook ISBN-978-981-15-5862-7 Hardcover ISBN-978-981-15-5861-0, Series ISSN-2195-4356, DOI:10.1007/978-981-15-5862-7, Publisher- Springer Singapore, Published Online 12 October (2020), Price: 291,19 €

C: Research results published in news papers in abroad by high beam research:

1. **Journal of Engineering;** July 1, 2009 **Vishwakarma and Colleagues**, **Reports from DDU Gorakhpur University advance knowledge in mechanical engineering.**
2. **Science Letter**; May 18, 2010; **Scientists at DDU Gorakhpur University publish research in physics.** (**J.P. Vishwakarma** and colleagues (G Nath))
3. **Physics Week, G Nath** update knowledge of astronomy and astrophysics, July 6, 2010 in newspaper
4. **Defense & Aerospace Week, G. Nath,** Research from NIT Provides new data about aerospace research, **April 3, 2012** in newspaper
5. **Defense & Aerospace Week, G. Nath,** Study Results from National Institute of Technology Broaden Understanding of Aerospace Research, **November 6, 2013**
6. **Journal of Technology**; July 8, 2014, Researchers at National Institute of Technology Have Reported New Data on Shock Research
7. **Journal of Engineering**; July 15, 2015, New Findings Reported from Motilal Nehru National Institute of Technology Describe Advances in Mechanical Engineering

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