

***SSR Report of Dr. Poornima Varma
2016-2021***



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International Publication:

1. Density variation effect on multi-ions with kinetic Alfven wave around cusp region – a kinetic approach. Radha Tamrakar, **P.Varma** and M.S. Tiwari, Astrophysics and Space Science (2018), DOI 10.1007/s 10509-017-3224-7, (UK/USA).
2. Effects of He^+ and O^+ ions on kinetic Alfven waves: application to PSBL region. Radha Tamrakar, **P.Varma** and M.S. Tiwari, Astrophysics and Space Science (2018), DOI 10.1007/s 10509-018-3443-6, (UK/USA).
3. Inertial Alfven waves in auroral acceleration region with H He and O ions plasma, Radha Tamrakar, **P.Varma** and M.S. Tiwari, Astrophysics and Space Science (2019) 364:102 ; <https://doi.org/10.1007/s10509-019-3593-1>
4. Study of multi-ions plasma in various space regions and wave phenomena around earth's magnetosphere by **P.Varma**, Journal of Coastal Zone Management ISSN: 2473-3350, Vol.23 No.3, 2020. USA.

National Publication:

1. Effect of temperature anisotropy on EIC waves with multi-component plasma around PSBL region-Particle aspect analysis, B.D.Raikwar, **P.Varma** & M.S.Tiwari, Proceeding Publications, 5th PSSI-PLASMA SCHOLARS COLLOQUIUM (PSC-2016), ISBN-

- 87881, 27-28, Aug., 2016, organized by Ravenshaw University Bhubneshwar, Orissa and Plasma Science Society of India.
2. Effects of temperature anisotropy on Electrostatic ion-cyclotron (EIC) wave in multi component plasma around Polar Cusp Region-Particle aspect approach by B.D. Raikwar, **P.Varma** and M.S.Tiwari, Ind.J. Phys,DOI 10.1007/s12648-017-1006-2, 91(9):979–990, (September 2017)
 3. Effect of general loss-cone distribution function on EIC waves in multi-component plasma-Particle aspect approach,B. D. Raikwar, **P.Varma** & M.S.Tiwari, Ind, J. of Radio & Space Phys., Vol.48, September 2017, pp 71-82.
 4. Kinetic Alfven wave with density variation and loss-cone distribution function of multi-ions in PSBL region, Radha Tamrakar, **P.Varma** and M.S.Tiwari, 2nd International Conference on Condensed Matter Physics (ICC-2017), Govt. Engineering College, Bikaner, 24-25, Nov., 2017, AIP Conf. Proc., 1953,060008-4:<https://doi.org/10.1063/1.5032739>.
 5. Comparative study between bi-Maxwellian & general distribution function on kinetic Alfven waves with multi-component plasma, R. Tamrakar, **P.Varma** & M.S.Tiwari, Proceeding Publications, 5th PSSI-PLASMA SCHOLARS COLLOQUIUM (PSC-2016), ISBN-87881, 27-28, Aug., 2016, organized by Ravenshaw University Bhubneshwar, Orissa and Plasma Science Society of India.
 6. Effect of general loss-cone distribution function on kinetic Alfven wave in multi-ions plasma by kinetic approach, Radha Tamrakar, **P.Varma** and M.S.Tiwari, Ind. J. Phys. DOI:10.1007/s12648-018-1294-1 (2018).
 7. Electrostatic Ion-Cyclotron wave Study by particle aspect approach with ion beam velocity and multi-ions plasma in plasma sheet boundary layer region around earth's magnetosphere by B. D. Raikwar, R. Tamrakar, **P.Varma** & M. S. Tiwari published in UTKARSH, ISSN 2395-356X, 2021.

Papers of Symposium and Conferences:

1. Mathematical model for study of Kinetic Alfven Wave with temperature anisotropy and effect of density variation of ions in cusp region by R.Tamrakar, **P.Varma** and M.S.Tiwari, presented as Poster in **International Conference** on Interface of Physical, Chemical and Biology Sciences, IPCBS-17, 11-13, Jan., 2017, organized by Dr. H.S.Gour University, Sagar (M.P.), PP28, p.53.
2. Effect of Ion beam on EIC waves with multi-ions plasma around PSBL region B.D.Raikwar, **P.Varma** and M.S.Tiwari, presented as Poster in **International Conference** on Interface of Physical, Chemical and Biology Sciences, IPCBS-17, 11-13, Jan., 2017, organized by Dr. H.S.Gour University, Sagar (M.P.), PP35, p.56.
3. Transfer of energy by wave particle interaction around cusp region by **P.Varma** as invited talk in National Conference on Energy for Sustainable Development, March 23-24, 2017 by Dr. H.S.Gour University, Sagar (M.P.).

4. Study of Electrostatic Ion-Cyclotron wave with ion beam velocity and multi-ions plasma in plasma sheet boundary layer region around earth's magnetosphere by B. D. Raikwar, **P. Varma** & M.S.Tiwari, presented 3-7, *January*, 106th INDIAN SCIENCE CONGRESS, JALANDHAR, 2019, Ph.001 *Section XIII: Physical Sciences*.
5. Description of kinetic Alfven waves with multi-ions plasma using Maxwellian distribution function-Kinetic Approach by Radha Tamrakar, **P. Varma** and M. S. Tiwari, presented 3-7, *January*, 106th INDIAN SCIENCE CONGRESS, JALANDHAR, 2019, Ph.064 *Section XIII: Physical Sciences*.
6. Propagation of Inertial Alfven Waves in Multi-ions plasma around auroral acceleration region by Radha Tamrakar, **P. Varma** and M. S. Tiwari, presented in 7th ***International Conference on “Wallop of Globalization in Engg.Medi-Sci.Agri.Pharm.Tec.Research”*** 27-28 Feb., 2019. SVN University, Sagar p.12.
7. International Webinar on “**Satellite applications in Geophysics**” Organized as Convener **P. Varma** in the Department of Physics, Dr. H. S. Gour University, Sagar M.P. on 22th July, 2020.
DOI: 10.13140/RG.2.2.10061.05607
8. Webinar on “**Effect of solar activity on human life of the earth**” Organized as Convener **P. Varma** in the Department of Physics, Dr. H. S. Gour University, Sagar M.P. on 18th Sep., 2020
DOI: 10.13140/RG.2.2.10105.08803.
9. Webinar on “**The role of Youth to develop Science and Technology in India**”
Participated as Invited Speaker, **P. Varma** organized by RNTU, Bhopal on 12th August, 2021. **DOI: 10.13140/RG.2.2.20100.24962.**

M.Sc. Project Guidance:

1. Study of various regions around earth's magnetosphere by Anil Kumar Nayak, May, 2016.
2. Study of Radiosonde in weather prediction by Subham, May, 2016.
3. GPS as an object tracker by Swati Singhai, May, 2016.
4. Study of Electromagnetic waves in Space (AW,KAW,EMIC, Magnetosonic) by Arun Kumar Singh, May, 2016.

DST, New Delhi

WOS-A, Scheme Major Project.

Study of multi-ions plasma with ultra-low frequency wave phenomena around earth's magnetosphere	2018 to 2021	Principal Investigator WOS-A Scheme	Rs. 25,88,000/- @55,000/- pm	DST New Delhi
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Virtual platform academic activities:

Online International and National Webinars and Quiz

1. Multidisciplinary National Webinar on “Impact of Covid-19 on family” at 23rd June, 2020 organized by Department of home science, **P. Varma**, Mahila kala mahavidhyalaya, Beed.
2. International Webinar series on Astronomy and Astrophysics entitled “The exciting story of Exoplanets” organized by Department of Applied Physics Karunya Institute of Technology and Science, **P. Varma** Coimbatore on 8th July 2020.
3. National Webinar on “Cyber Security: Issues and Challenges” organized by Govt. P. G. College, Damod, **P. Varma** M.P., 17th June, 2020.

4. National level Webinar and Panel discussions on “Understanding API & CAS Process for working Academic Library Professionals” by B.M.N. College of home science and S.N.D.T. **P.Varma** , Women University on 27th June, 2020.
5. International Webinar on “Role of Sports Activities on Health and Changing Lifestyle: Pandemic 2020” organized by Govt. Auto. Girl’s P.G.College of Excellence, **P.Varma**, Sagar M.P. on 14th July, 2020.
6. Online Webinar on “Research publications and citations: Perspective of a high cited researcher” organized by Department of Physics, **P.Varma**, Mizoram University on 16th June, 2020.
7. International Webinar series on Astronomy and Astrophysics entitled “Are we alone in the Universe” organized by Department of Applied Physics Karunya Institute of Technology and Science, **P.Varma** ,Coimbatore on 24th July 2020.
8. Online Webinar on “Research Ethics, Copyright and Plagiarism” organized by Department of Physics, **P.Varma** , Mizoram University on 20th July, 2020.
9. Online Quiz on “Health and Sports” organized by Govt. Auto. Girl’s P.G.College of Excellence, **P.Varma** ,Sagar M.P. on 28th to 30th June, 2020.
10. International Webinar on “**Satellite applications in Geophysics**” Organized as Convener **P.Varma**, in the Department of Physics, Dr. H. S. Gour University, Sagar M.P. on 22th July, 2020. DOI: [10.13140/RG.2.2.10061.05607](https://doi.org/10.13140/RG.2.2.10061.05607).
11. Webinar on “**Effect of solar activity on human life of the earth**” Organized as Convener **P.Varma**, in the Department of Physics, Dr. H. S. Gour University, Sagar M.P. on 18th Sep., 2020 DOI: [10.13140/RG.2.2.10105.08803](https://doi.org/10.13140/RG.2.2.10105.08803).
12. Webinar on “**The role of Youth to develop Science and Technology in India**” Participated as Invited Speaker, organized by RNTU, Bhopal on 12th August, 2021. **P.Varma**, DOI: [10.13140/RG.2.2.20100.24962](https://doi.org/10.13140/RG.2.2.20100.24962).

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