

Curriculum Vitae

Dr. Diptiranjana Rout
National Post-doctoral Fellow
Space Physics laboratory
Vikram Sarabhai Space Research Centre
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Academic Qualification

- 2017 Ph.D., Space Physics
Physical Research Laboratory, Ahmedabad, Gujarat, India
MLSU, Udaipur, India
 - 2012 Master of Science (Physics)
First division, National Institute of Technology Rourkela, Odisha, India
 - 2010 Bachelor of Science with Physics
First division, Bhadrak Autonomous College, Odisha, India
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PhD Thesis

Thesis title: Investigation of Magnetosphere-Ionosphere-Thermosphere System Under Varying Space Weather Conditions.

Thesis Supervisor: Dr. Dibyendu Chakrabarty

Projects Undertaken

- 2013 PhD Course work Project in Semester-2
Physical Research Laboratory (PRL), Ahmedabad, India
Guide: Prof. R. Sekar
Topic: Low Latitude Ionospheric E-Region Plasma Irregularities
 - 2012 PhD Course work Project in Semester-1
Physical Research Laboratory (PRL), Ahmedabad, India
Guide: Prof. R.P. Singh
Topic: Entanglement sharing between photon and atom
 - 2012 Master's Degree Dissertation
National Institute of Technology, India
Guide: Prof. Pawan Kumar
Topic: Synthesis & Characterization of PCT (76/24) Thin Films
 - 2011 Summer Internship Physical Research Laboratory (PRL), Ahmedabad, India
Guide: Dr. Namit Mahajan
Topic: Symmetries and their violations in particle physics
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Skills and Experience

Programming Language : C, Fortran, Matlab
Software Proficiency : Origin Pro, Sigma plot, Latex and Microsoft Office
Operating systems : Linux, Windows XP/7/8/10

Research Interests

- Magnetosphere-Ionosphere-Thermosphere Coupling
- Storm-substorm relationship
- Geoeffectiveness of solar wind structures
- Space weather

Research Experiences

February, 2020- till date	SERB National Post-Doctoral fellowship (NPDF) Space Physics Laboratory, Vikram Sarabhai Space Centre, Thiruvananthapuram, India
March-July 2019	Post-doctoral Fellow Physics and Astronomy Division Clemson University, SC, USA
July, 2017- February 2019	Post-Doctoral Fellow, Space and Atmospheric Sciences Division, Physical Research Laboratory, India
July, 2014- July, 2017	Senior Research Fellow, Space and Atmospheric Sciences Division, Physical Research Laboratory, India
July, 2012- July, 2014	Junior Research Fellow, Space and Atmospheric Sciences Division Physical Research Laboratory, India

Refereed Research

1. **Diptiranjan Rout**, K. Pandey, D. Chakrabarty, and R. Sekar, Xian Lu (2019), Significant electric field perturbations in low latitude ionosphere due to the passage of two consecutive ICMEs during 6-8 September 2017, *J. Geophys. Res.*, <https://doi.org/10.1029/2019JA027133>
2. P. Janardhan, K. Fujiki, M. Ingale, S. Bisoi, and **Diptiranjan Rout**, (2018), Solar polar fields during cycle 24: An unusual polar field reversal, *Astron. Astrophys.*, DOI: <https://doi.org/10.1051/0004-6361/201832981>
3. **Diptiranjan Rout**, D. Chakrabarty, S. Sarkhel, R. Sekar, B. G. Fejer, G.D. Reeves, A. S. Kulkarni, N. Aponte, M. Sulzer, J. D. Mathews, R. B. Kerr, and J. Noto, (2018) The ionospheric impact of a ICME driven sheath region over Indian and American sectors in the absence of a typical geomagnetic storm, *J. Geophys. Res.*, doi: <https://doi.org/10.1029/2018JA025334>
4. **Diptiranjan Rout**, D. Chakrabarty, P. Janardhan, R. Sekar, V. Maniya, and K. Pandey (2017), Solar wind flow angle and geoeffectiveness of corotating interaction regions: First results, *Geophys. Res. Lett.*, 44, doi:10.1002/2017GL073038
5. Chakrabarty D., D. Hui, **Diptiranjan Rout**, R. Sekar, A. Bhattacharyya, G.D. Reeves, and J.M. Ruohoniemi (2017), Role of IMF By in the Prompt Electric Field Disturbances over Equatorial Ionosphere During a Space Weather Event, *J. Geophys. Res.*, 122, doi: 10.1002/2016JA022781.
6. **Diptiranjan Rout**, D. Chakrabarty, R. Sekar, G. D. Reeves, J. M. Ruohoniemi, T. K. Pant, B. Veenadhari, and K. Shiokawa (2016), An evidence for prompt electric field

disturbance driven by changes in the solar wind density under northward IMF Bz condition, **J. Geophys. Res.**, 121, 4800–4810, doi: 10.1002/2016JA022475.

7. D. Chakrabarty, **Diptiranjana Rout**, R. Sekar, R. Narayanan, G. D. Reeves, T. K. Pant, B. Veenadhari, and K. Shiokawa (2015), Three different types of electric field disturbances affecting equatorial ionosphere during a long-duration prompt penetration event. **J. Geophys. Res.**, 120, 4993–5008. doi: 10.1002/2014JA020759.
 8. Tikemani Bag, Zheng Li, **Diptiranjana Rout**, G. Bharti, (2019), SABER observation of storm time hemispheric asymmetry in Nitric Oxide radiative emission, Under review, **JGR-Space Physics**
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Selected Oral Presentations

1. *Extreme impacts over low latitude ionosphere during a space weather event*, 15th International Symposium on Equatorial Aeronomy (ISEA-15), Physical Research Laboratory, India, 22-26 October 2018
 2. *Space Weather*, Popular Lecture, Rajasthan English Higher Secondary School, Ahmedabad, India, 10 February 2018
 3. *Magnetosphere-Ionosphere-Thermosphere System Under Varying Space Weather Conditions*, ISEE International Collaboration Research Program, Nagoya University, Japan, 10 November 2017.
 4. *Three different types of electric field disturbances affecting equatorial ionosphere during a long duration prompt penetration event*, selected for oral presentation NSSS-2016, conducted by Indian Space Research Organization (ISRO), Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, Kerala, February 09-12, 2016.
 5. *Three different types of electric field disturbances affecting equatorial ionosphere during a long duration prompt penetration event*, 2nd URSI-RCRS-2015 Conference, New Delhi, November 16-19 2015.
 6. *Magnetosphere-Ionosphere coupling during a geomagnetically disturbed condition*, 8th Annual Incoherent Scatter Radar Summer School, CONIDA, Lima, Peru, 19-25 July 2015.
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Poster Presentations

1. *Evaluating the role of solar wind dynamic pressure in generating prompt penetration electric field under northward IMF Bz condition*, 3rd URSI-RCRS-2017 Conference, 01-04 March 2017, National Atmospheric Research Laboratory (NARL), Tirupati, India
 2. *Narrow band airglow observations from Thumba to investigate equatorial ionosphere during quiet and disturbed times*, Poster presentation at National Space Science Symposium (NSSS) conducted by Indian Space Research Organization (ISRO), 29 January 2014 – 01 February 2014, Dibrugarh, Assam, India.
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Awards/Fellowships

- Received National Post-Doctoral Fellowship (NPDF) from Science and Engineering Research Board (SERB), India
 - Best Young Scientist Paper Award in 15th International Symposium on Equatorial Aeronomy (ISEA-15)
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Articles reported in national media

- The paper “Solar polar fields during cycle 24: An unusual polar field reversal, by Janardhan et al, published in Astronomy & Astrophysics (2018), made research highlights (“**Sun’s reversed polarity field may affect Earth’s climate**”) in **Nature India** (26 November 2018, doi:10.1038/nindia.2017.116)
 - The paper “Solar wind flow angle and geoeffectiveness of corotating interaction regions: First results, by Rout et al., published in Geophysical Research Letters (2017), made research highlights (“**A new angle on the effects of solar wind**”) in **Nature India** (7 September 2017, doi:10.1038/nindia.2018.153)
 - **The Hindu**, one of the **leading national newspapers of India** published an article on December 10, 2017 entitled, “**Working of solar wind flows deciphered by PRL team**” based on our work, “Solar wind flow angle and geoeffectiveness of corotating interaction regions: First results, by Rout et al., published in Geophysical Research Letters, 2017, (doi:10.1002/2017GL073038)
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International Workshops/Schools

1. Heliophysics Summer School, HAO, Boulder, Colorado, USA, August 1-8, 2017.
 2. CISM Space Weather Summer School, NCAR, Boulder, Colorado, USA, July 11-22, 2016.
 3. 8th Annual Incoherent Scatter Radar Summer School, CONIDA, Lima, Peru, July 19-25, 2015.
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International Collaboration

Part of the ISEE International Joint Research Program, Nagoya University, Japan, 2017. As part of this collaboration, visited Nagoya University during 29 October-22 November, 2017, to initiate a work on the causes of the long duration non-radial solar wind flows.

Professional Services

Served as a **Reviewer** for Journal of Geophysical Research-Space Physics (JGR).
