डॉ स्मिता वी तंपी/Dr. Smitha V. Thampi

वैज्ञानिक/इंजीनियर-एसएफ/Scientist/Engineer-SF
अंतरिक्ष भौतिकी प्रयोगशाला/Space Physics Laboratory
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अनुसंधान का क्षेत्र/ *Area of Research:*

ग्रहीय विज्ञान /Planetary Sciences

अनुसंधान कार्यक्रम/*Broad research Topics*

- अंतरिक्ष मौसम/Space weather
- ग्रहीय आयनमंडल/Planetary ionospheres
- ग्रहीय और अंतरिक्ष विज्ञान एवं सौर मंडल अन्वेषण /Planetary and Space Sciences, and Solar System Exploration

पुरस्कार और सम्मान (2011 से) / Awards and Honors (since 2011)

- NASI-Scopus युवा वैज्ञानिक पुरस्कार/ NASI Scopus Young Scientist Award- 2017
- SERB महिला उत्कृष्टता पुरस्कार / SERB (Science & Engineering Research Board, DST, Government of India) Woman Excellence Award in 2013.
- Associate - भारतीय विज्ञान अकादमी/Associate of the Indian Academy of Sciences -2011
- URSI-GASS युवा वैज्ञानिक पुरस्कार / URSI - GASS Young Scientist Award (2011) at the XXX URSI GASS, Istanbul, Turkey

शैक्षिक योग्यता/Educational Qualification

- पीएचडी/Ph.D - 2007 केरल विश्वविद्यालय/University of Kerala

पूर्व में आयोजित पद/ Positions held Earlier

- 2014-2018 - वैज्ञानिक/इंजीनियर एसई/ Scientist/Engineer SE, अंतरिक्ष भौतिकी प्रयोगशाला/Space Physics Laboratory
- 2011-2014 - रीडर/Reader, भौतिक अनुसंधान प्रयोगशाला/ Physical Research Laboratory

प्रकाशनों की सूची/List of Publications

1. K. B. Jinesh, K. C. Wilson, **S. V. Thampi**, C. Sudha Kartha, K. P. Vijayakumar, T. Abe, Y. Kashiwaba, How quantum confinement comes in chemically deposited CdS?- A detailed XPS investigation, **Physica E**, 19, 303-308, 2003.

2. **Thampi, S. V**, Tarun K. Pant, Sudha Ravindran, C.V. Devasia, and R. Sridharan, Simulation Studies on the Tomographic Reconstruction of the Equatorial and Low Latitude Ionosphere in the Context of the Indian Tomography Experiment, - CRABEX, **Annales Geophysicae**, 22, 3445-3460, 2004.

3. **Thampi, S. V**, Sudha Ravindran, C. V. Devasia T. K. Pant, P. Sreelatha, and R. Sridharan, First observation of topside ionization ledges using radio beacon measurements from low earth orbiting satellites, **Geophysical Research Letters**, 32, L11104, doi: 10.1029/ 2005GL022883, 2005

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4. **Thampi, S. V.**, Sudha Ravindran, T. K. Pant, C. V. Devasia, P. Sreelatha and R. Sridharan, Deterministic prediction of post-sunset ESF based on the strength and asymmetry of EIA from ground based TEC measurements – Preliminary results, **Geophysical Research Letters**, 33, L13103, doi:10.1029/ 2006GL026376, 2006.

5. **Thampi, S. V.**, N. Balan, Sudha Ravindran, Tarun Kumar Pant, C. V. Devasia, P. Sreelatha R. Sridharan and G. J. Bailey, An additional layer in the low-latitude ionosphere in Indian longitudes: Total electron content observations and modeling, **Journal of Geophysical Research**, A06301, doi:10.1029/2006JA011974, 2007

6. **Thampi, S. V.**, Sudha Ravindran, C V Devasia, P Sreelatha, T. K. Pant, R Sridharan, Venkat Ratnam, A. D. Sharma, C Raghava Reddi, J. Jose, and J H Sastry, Coherent radio beacon experiment (CRABEX) for tomographic imaging of the equatorial ionosphere in the Indian longitudes - Preliminary results, **Advances in Space Research**, 40, 436-441, 2007

7. Pant, T. K, D. Tiwari, C. Vineeth, **S. V. Thampi**, S. Sridharan, C. V. Devasia, R. Sridharan, S. Gurubaran and R. Sekar, Investigation of the mesopause energetics and its possible implications on the mesosphere–lower thermosphere–ionosphere (MLTI) processes through coordinated daytime airglow and radar measurements, **Geophysical Research Letters**, 39, L15102, doi:10.1029/2007GL030193, 2007

8. Aggarwal M., H. P. Joshi, K. N. Iyer, A. K. Patra, and **S.V. Thampi**, Study of equatorial spread F using L-band and VHFradar, **Bull. Astr. Soc. India**, 35, 631-637, 2007

9. Vineeth C., T. K. Pant**, S. V. Thampi**, R. Sridharan, Sudha Ravindran, C. V. Devasia, K.K. Kumar and S. Alex, Investigation of the response of equatorial MLTI region during a partial solar eclipse through ground-based daytime optical technique, **Journal of Geophysical Research**, 113, A03302, doi:10.1029/2007JA012335, 2008.

10. **Thampi, S. V.**, Sudha Ravindran, Tarun K. Pant, C. V. Devasia and R. Sridharan, Seasonal Dependence of the 'Forecast Parameter' Based on the EIA Characteristics for the Prediction of Equatorial Spread F (ESF), **Annales Geophysicae**, 26, 1751–1757, 2008.

11. Balan, N., **S. V. Thampi**, K. Lynn, Y. Otsuka, H. Alleyne, S. Watanabe, M. A. Abdu, and B. G. Fejer, F3 layer during penetration electric field, **Journal of Geophysical Research**, 113, A00A07, doi:10.1029/ 2008JA013206, 2008.

12. Manju, G. Sudha Ravindran, C. V. Devasia, **S. V. Thampi**, and R. Sridharan, Plasmaspheric electron content (PEC) over the low latitude regions in the Indian sector during different geophysical conditions, **Journal of Atmospheric and Solar Terrestrial Physics**,70, 1066–1073, 2008.

13. **Thampi, S. V.**, Mamoru Yamamoto, Roland T. Tsunoda, Yuichi Otsuka, Takuya Tsugawa, Jyunpei Uemoto, and Mamoru Ishii, First observations of large-scale wave structure and equatorial spread F using CERTO radio beacons on the C/NOFS satellite, **Geophysical Research Letters**, 36, L18111, doi:10.1029/2009GL039887, 2009.

14. **Thampi, S. V.**, C. H. Lin, H. Liu and M. Yamamoto, First Tomographic Observations of the Mid-latitude Summer Nighttime Anomaly (MSNA) over Japan, **Journal of Geophysical Research**, 114, A10318, doi: 10.1029/2009JA014439, 2009

15. Liu H., **S.V. Thampi** and Mamoru Yamamoto, Phase Reversal of the Diurnal Cycle in the Mid-latitude Ionosphere, **Journal of Geophysical Research**, 115, A01305, doi:10.1029 /2009JA014689, 2010.

16. **Thampi, S. V.** and M. Yamamoto, First results from the ionospheric tomography experiment using beacon TEC data obtained using a network along 136°E longitude over Japan, **Earth, Planets and Space**, 62, 359–364, 2010

17. Tsunoda R. T., David M. Bubenik, **S. V. Thampi**, and Mamoru Yamamoto, On large-scale wave structure and equatorial spread F without a post-sunset rise of the F layer, **Geophysical Research Letters**, 37, L07105, doi:10.1029/2009GL042357, 2010

18. **Thampi, S. V.**, M. Ymamoto, Huixin Liu, Susumu Saito, Yuichi Otsuka, and A.K. Patra, Nighttime-like Quasi Periodic echoes induced by a partial solar eclipse, **Geophysical Research Letters**, 37, L09107, doi:10.1029/2010GL042855, 2010

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20. **Thampi, S. V.**, Nanan Balan, Charles Lin, Huixin Liu, and Mamoru Yamamoto of Mid-latitude Summer Nighttime Anomaly (MSNA)- Observations and Model simulations, **Annales Geophysicae**, 29, 157–165, 2011.

21. Manju G., V. Sreeja, Sudha Ravindran and **S.V. Thampi**, Towards Prediction of L band scintillations in the Equatorial Ionization Anomaly (EIA) Region, **Journal of Geophysical Research**, 116, A02307, doi:10.1029/2010JA015893, 2011.

22. **Thampi, S. V.**, M. Yamamoto, C. Lin, and H. Liu, Comparison of FORMOSAT-3/COSMIC radio occultation measurements with radio tomography, **Radio Science**, 46, RS3001, doi:10.1029/2010RS004431, 2011

23. Tsunoda, R. T., M. Yamamoto, T. Tsugawa, T. L. Hoang, S. Tulasi Ram, **S. V. Thampi**, H. D. Chau, and T. Nagatsuma, On seeding, large-scale wave structure, equatorial spread F, and scintillations over Vietnam, **Geophysical Research Letters,** 38, L20102, doi:10.1029/2011GL049173, 2011

24. **Thampi, S. V**. and Mamoru Yamamoto, Evolution of Plasma bubbles over Vietnam region observed using the CERTO beacon on board C/NOFS satellite, **Indian Journal of Radio and Space Physics**, 41, 233-239, 2012

25. Chakrabarty D., M. S. Bagiya, **S. V. Thampi** and K. N. Iyer, Solar EUV flux, F10.7 cm flux, sunspot number and the total electron content in the crest region of equatorial ionization anomaly during the deep minimum between solar cycle 23 and 24, **Indian Journal of Radio and Space Physics**, 41, 110-120, 2012

26. Tulasi Ram, S., M. Yamamoto, R. T. Tsunoda, **S. V. Thampi**, and S. Gurubaran, On the application of differential phase measurements to study the zonal large scale wave structure (LSWS) in the ionospheric electron content, **Radio Science**, 47, RS2001, doi:10.1029/2011RS004870, 2012

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29. Tsunoda, R. T., **S. V. Thampi**, ThuTrang Nguyen, M. Yamamoto, On validating the relationship of ionogram signatures to large-scale wave structure, **Journal of Atmospheric and Solar Terrestrial Physics**, 103, 30–35, 2013

30. Chakrabarty D., Mala S Bagiya, **S**. **V. Thampi**, B M. Pathan, R Sekar, Signatures of moderate (M-class) and low (C and B class) intensity solar flares on the equatorial electrojet current: Case studies, **Journal of Atmospheric and Solar Terrestrial Physics**, 105-106, 170–180, 2013.

31. **Thampi, S. V.**, M. Bagiya, D. Chakrabarty, Y. B. Acharya, and M. Yamamoto, An ensemble average method to estimate absolute TEC using radio beacon based differential phase measurements: applicability to regions of large latitudinal gradients in plasma density, **Radio Science**, 49, 1153-1161, doi: 10.1002/ 2014RS005372, 2014.

32. **Thampi, S. V.**, R. Sridharan, Tirtha Pratim Das, S.M. Ahmed, J.A. Kamalakar and Anil Bhardwaj, The spatial distribution of molecular hydrogen in the lunar atmosphere – new results, **Planetary and Space Science**, 106, 142-147, doi: 10.1016/j.pss.2014.12.018, 2015

33. Gupta, S. P. and **S. V. Thampi**, Electrical conductivity of the stratosphere over Hyderabad, India: Results from Balloon borne measurements, **Indian Journal of Radio & Space Physics**, 44, pp. 132 –137, 2015

34. **Thampi, S. V.**, P. R. Shreedevi, R. K. Choudhary, Tarun Kumar Pant, D. Chakrabarty, S. Sunda, S. Mukherjee, and Anil Bhardwaj, Direct observational evidence for disturbance dynamo on the daytime low-latitude ionosphere: A case study based on the 28 June 2013 space weather event, **Journal of Geophysical Research: Space Physics**, 121, doi:10.1002/2016JA023037, 2016

35. Shreedevi, P. R**., S. V. Thampi**, D. Chakrabarty, R. K. Choudhary, T. K. Pant, A. Bhardwaj, and S. Mukherjee, On the latitudinal changes in ionospheric electrodynamics and composition based on observations over the 76 –77E meridian from both hemispheres during a geomagnetic storm, **Journal of Geophysical Research: Space Physics,** 121, doi: 10.1002/2015JA021841, 2016

36. Das, T. P., **S. V. Thampi**, A. Bhardwaj, S. M. Ahmed, and R. Sridharan, First Observation Neon at mid and high latitudes in the sunlit Lunar exosphere: Results from CHACE aboard MIP/Chandrayaan-1, **Icarus**, https://doi.org/10.1016/j.icarus.2016.02.030, 2016.

37. Bhardwaj, A., **S. V. Thampi**, T. P. Das, M. B. Dhanya, N. Naik, D. P. Vajja, P. Pradeepkumar, P. Sreelatha, G. Supriya, A. J. K, S. V. Mohankumar, R. S. Thampi, V. K. Yadav, B. Sundar, A. Nandi, G. P. Padmanabhan, and A. V. Aliyas, On the evening time exosphere of Mars: Result from MENCA aboard Mars Orbiter Mission**, *Geophysical Research Letters***, doi: 10.1002/2016GL067707, 2016

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39. Das, T. P., **S. V. Thampi**, Dhanya, M. B., A. Bhardwaj, S.M. Ahmed and R. Sridharan, Upper limit of Helium-4 in the sunlit lunar exosphere during magnetotail passage under low solar wind condition: result from CHACE aboard MIP in Chandrayaan-1. **Icarus**, 297. https://doi.org/10.1016/j.icarus.2017.07.001, 2017.

40. **Thampi., S. V**., Krishnaprasad C., A. Bhardwaj, Yuni Lee, R. K. Choudhary, and T. K. Pant, MAVEN observations of the response of Martian ionosphere to the interplanetary coronal mass ejections of March 2015, **Journal of Geophysical Research: Space Physics**, 123, doi: 10.1029/2018JA025444, 2018

41. Shreedevi, P. R., R. K. Choudhary, Sneha Yadav, **S. V. Thampi**, and A. Ajesh, Variation of the TEC at a dip equatorial station, Trivandrum and a mid-latitude station, Hanle during the descending phase of the solar cycle 24 (2014–2016), **Journal of Atmospheric and Solar Terrestrial Physics**, https://doi.org/10.1016/j.jastp.2018.09.010., 2018

42. Bagiya Mala, **S. V. Thampi**, Debrup Hui, A. S. Sunil, D. Chakrabarty, and R. K. Choudhary, Signatures of the solar transient disturbances over the low latitude ionosphere during 6 to 8 September 2017, **Journal of Geophysical Research: Space Physics**, 123, doi: https: //doi.org/10.1029/2018JA025496, 2018

43. **Thampi S. V.**, Krishnaprasad C., P. R. Shreedevi, T. K.Pant, and A. Bhardwaj, Acceleration of Energetic Ions in Corotating Interaction Region near 1.5 au: Evidence from MAVEN, ***The Astrophysical Journal Letters***. doi: https://doi.org/10.3847/2041-8213/ab2b43, 2019

44. Krishnaprasad, C., **S. V. Thampi**., and A. Bhardwaj, On the response of Martian ionosphere to the passage of a corotating interaction region, **Journal of Geophysical Research**: **Space Physics**, 124, doi: https://doi.org/10.1029/2019JA026750, 2019 *[Lead author is student]*

45. Vrinda, M., **S. V. Thampi**, A. Bhardwaj, and Krishnaprasad C. "The dayside ionosphere of Mars: Comparing a one-dimensional photochemical model with MAVEN Deep Dip campaign observations", **Icarus**, doi: https://doi.org/10.1016/j.icarus.2019.113502, 2020

46. Vrinda, M., **S. V. Thampi**., A. Bhardwaj, and Krishnaprasad C., Model calculation of ionization efficiency in the Martian dayside ionosphere using MAVEN observations, **Monthly Notices of the Royal Astronomical Society**, doi: https://doi.org/10.1093/mnras/staa2123. 2020

47. Krishnaprasad, C., **S. V. Thampi**, A. Bhardwaj, C. O. Lee, K. Kishore Kumar and T. K. Pant, Recurrent Solar Energetic Particle Flux Enhancements Observed near Earth and Mars, ***The Astrophysical Journal***. doi: https://doi.org/10.3847/1538-4357/abb137, 2020 *[Lead author is student]*.

48. Das, T.P, **S. V. Thampi**, and M. B. Dhanya et al, CHandra's Atmospheric Composition Explorer 2 onboard Chandrayaan- 2 to study the lunar neutral exosphere, Current Science. doi: doi:10.18520/cs/v118/i2/202-209, 2020

49. Shreedevi, P. R., R. K. Choudhary, and **S. V. Thampi** et al., Geomagnetic Storm Induced Plasma Density Enhancements in the Southern Polar Ionospheric Region: A Comparative Study Using St. Patrick 's Day Storms of 2013 and 2015, **Space Weather**, doi: https://doi.org/10.1029/2019SW002383, 2020

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