

DR. TARUN KUMAR PANT

SCIENTIST/ENGINEER - SF

SPACE PHYSICS LABORATORY

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AREAS OF SPECIFIC RESEARCH INTEREST:

Optical & Radio Remote Sensing of terrestrial plasma and neutral environment from ground, rocket and satellite based platforms; Aeronomy, Airglow, Climate and Weather of Sun- Earth System, Equatorial and Low Latitude Upper Atmosphere/Ionosphere, Energetics-Dynamics and Chemistry of Mesosphere-Thermosphere-Ionosphere region, Sudden Stratospheric Warming and its Equatorial/Low Latitude Effects, Plasma instabilities, Radio and Optical Instrumentation.

Academic Qualifications:

<i>Course</i>	<i>University</i>	<i>Year</i>	<i>Subjects</i>	<i>Grades</i>
B.Sc	<i>Kumaon University</i>	<i>1988</i>	<i>Physics, Chemistry, Maths</i>	<i>1st Div.</i>
M.Sc	<i>Kumaon University</i>	<i>1990</i>	<i>Physics</i>	<i>1st Div.</i>
Ph.D	<i>Gujarat University</i>	<i>1998</i>	<i>“Response of the low latitude thermosphere-ionosphere system during varying geophysical processes”</i>	

PROFESSIONAL BACKGROUND:

Post Doctoral Fellow (2000-2001), University Of Toronto, Toronto, Canada

Post Doctoral Fellow (1998-2000), Physical Research Laboratory, Ahmedabad, India

Research Student (1992-1998), Physical Research Laboratory, Ahmedabad, India

Research Student (1990-1992), Uttar Pradesh State Observatory, Nainital, India.

AWARDS & HONORS:

1. *One of the five finalists for the Indian National Science Academy's Young Scientist Award (Year 2002) in the research area of Earth and Atmospheric sciences.*
2. *Best Thesis Award, Gold medal, Physical Research Laboratory, 1998.*
3. *Post Doctoral Fellowship, University Of Toronto, Toronto, Canada, 2000-2001*
4. *Best paper awards from Indian National Council for Union Radio-Scientifique Internationale (INCURSI-2007) and National Space Science Symposium - 2012.*
5. *Editors Choice papers in AGU publication like JGR and GRL*

PROFESSIONAL MEMBERSHIPS/ RESPONSIBILITIES:

1. *Member of the science definition team and the campaign coordinator of the Indian Program on CAWSES (WG-2) 2004-2008*
2. *Member, NARL technical committee for Rayleigh Lidar 2004-2007*
3. *Science PI for ISRO's satellite payload LiVHySI (Limb Viewing Hyper Spectral Imager) and RaBIT (Radio Beacon for Ionospheric Tomography) onboard YOUTHSAT, currently in orbit*
4. *Science PI for rocket payload 'EACE (Upper Atmospheric Composition Explorer)'*
5. *Science Co-PI for rocket payload 'ENWi (Electron density and Neutral Wind probe)'*
6. *Co-Convenor of PS3 session in National Space Science Symposium (2012)*
7. *Reviewer for international journals like Geophysical Research Letters, American Geophysical Union (AGU), USA, Annales Geophysicae, European Geophysical Union (EGU), Germany, Journal of Geophysical Research, American Geophysical Union (AGU), USA, Journal of Atmospheric and Solar Terrestrial Physics, UK, Advances Space Research, France, Journal of Earth System Science, Indian Academy of Sciences (IASc), India, Current Science, India, Indian Journal of Radio & Space Physics, India.*

RESEARCH SUPERVISION:

Co-supervised the Doctoral works of Mr. Diwakar Tiwari (2001-7), Ms. Smitha. V. Thampi (2003-8), Mr. C. Vineeth (2004-9) and V. Sreeja (2005-10) (ISRO JRFs)

Supervised the Doctoral work of Mr. Lijo Jose (2008-13), Mr. S. G. Sumod (2008-13), (ISRO JRFs)

Currently Supervising Doctoral work of Mr. A. Ajesh (2012-ISRO JRF) & Ms. N. Mridula (Scientist, SPL)

LIST OF PUBLICATIONS:

1. **T. K. Pant** and R. Sridharan, A case study of the low latitude thermosphere during Geomagnetic storms and its new representation by improved MSIS model, *Ann. Geophysicae.*, **16**, 1513-1518, 1998.

2. **T. K. Pant** and R. Sridharan, Parameterization of the local and non-local processes in the thermospheric energy budget based on DE-2 satellite data, *J. Atmos. Solar Terrs. Phys.*, **63**, 1705-1715, 2001.
3. **T. K. Pant** and R. Sridharan, Seasonal dependence of the response of the low latitude thermosphere for external forcings, *J. Atmos. Solar Terrs. Phys.*, **63**, 987-992, 2001.
4. **T. K. Pant** and R. Sridharan, Plausible explanation for the equatorial temperature and wind anomaly (ETWA) based on chemical and dynamical processes, *J. Atmos. Solar Terrs. Phys.*, **63**, 885-891, 2001.
5. D. Chakrabarty, **T. K. Pant**, R. Sekar, Alok Taori, N. K. Modi and R. Narayanan, Thermospheric temperature and magnetic field measurements from Mt. Abu during a geomagnetically disturbed period – a case study, *Current Science*, **87**, 279-283, 2002.
6. **T. K. Pant**, R. Suhasini, S. Gurubaran and R. Sridharan, An improved, user-friendly data deduction technique for the retrieval of the Doppler parameters from Interference Fringes obtained by a high resolution Fabry-Perot spectrometer, *Indian Journal of Radio & Space Physics*, **32**, 329-336, 2003.
7. Sastri J. H., R. Sridharan, **T. K. Pant**, Equatorial ionosphere-thermosphere system during geomagnetic storms, (*AGU Geophysical Monograph Series*, vol. No. 142, 2003.
8. D. Chakrabarty, R. Sekar, R. Narayanan, **T. K. Pant**, K. Niranjana, Thermospheric gravity wave modes over low and equatorial latitudes during daytime, *J. Geophys. Res.*, **109**, A12309, doi:10.1029/2003JA010169, 2004.
9. **T. K. Pant**, D. Tiwari, S. Sridharan, K.S.V. Subbarao, R. Sridharan and R. Sekar, Investigation of solar radiation effect in the mesopause region through Dayglow and Radar measurements-A case study, *Annales Geophysicae*, **22**, 3299-3303, 2004.
10. S. V. Thampi, **T. 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.
11. Vineeth, C, **T. K. Pant**, Maria Antonita, Geetha Ramkumar, C. V. Devasia and R. Sridharan, A comparative study of daytime Mesopause temperatures obtained using unique ground based optical and meteor wind radar techniques over the magnetic equator, *Geophys. Res. Lett.*, doi 10.1029/2005 GL023728, 2005.
12. S. V. Thampi, Sudha Ravindran, C.V. Devasia, **T. K. Pant**, Sreelatha P, and R. Sridharan, First observation of topside ionization ledges using radio beacons from low earth orbiting satellites, *Geophys. Res. Lett.*, **32**, L11104, doi:10.1029/2005GL22883, 2005.
13. A. K. Patra, D. Tiwari, C.V. Devasia, **T. K. Pant**, and R. Sridharan, East-west asymmetry of the equatorial electrojet 8.3 m type-2 echoes observed over Trivandrum and a possible explanation, (accepted) *J. Geophys. Res.*, 2005.
14. S. V. Thampi, 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, *Geophys. Res. Lett.*, **33**, L13103, doi: 10.1029/2006 GL026376, 2006.
15. D. Tiwari, B. Engavale, A. Bhattacharyya, C. V. Devasia, **T. K. Pant**, and R. Sridharan, Simultaneous radar and spaced receiver VHF scintillation observations of ESF irregularities, *Annales Geophysicae* **24**, 1427-1429, 2006.
16. S. V. Thampi, N. Balan, Sudha Ravindran, **T. K. Pant**, C. V. Devasia, P. Sreelatha and R. Sridharan, An additional layer in the low-latitude ionosphere in Indian longitudes: Total electron content observations and modeling, *J. Geophys. Res.*, A06301, doi:10.1029/2006JA011974, 2007.

17. S. V. Thampi, Sudha Ravindran, C V Devasia, P Sreelatha, **T. K. Pant**, R Sridharan, Venkata Ratnam, A D Sharma, C Raghava Reddi, Jessy Jose, and J H Sastry, Coherent radio beacon experiment (CRABEX) for tomographic imaging of the equatorial ionosphere in the Indian longitudes - Preliminary results, *Adv. Space Res.*, 40, 436-441, 2007.
18. Vineeth, C, **T. K. Pant**, C. V. Devasia and R. Sridharan, Atmosphere-Ionosphere coupling observed over the dip equatorial MLTI region through the quasi 16-day wave, *Geophys.Res.Lett.*,34, L12102, doi: 10.1029/2007GL030010, 2007.
19. Vineeth, C, **T. K. Pant**, C. V. Devasia and R. Sridharan (2007), Highly localized cooling in daytime mesopause temperature over the dip equator during Counter Electrojet events: -First results, *Geophys. Res. Lett.*, 34, L14101, doi: 10.1029/2007GL030298, 2007 I
20. **Pant, T. K.**, Diwakar Tiwari, C. Vineeth, S. V. Thampi, S. Sridharan, C. V. Devasia, R. Sridharan, S. Gurubaran and R. Sekar (2007), Investigation of the mesopause energetics and its possible implications on the mesosphere–lower thermosphere–ionosphere (MLTI) processes through coordinated daytime airglow and radar measurements, *Geophys. Res. Lett.*, 34, L15102, doi: 10.1029/2007GL030193, 2007
21. **Pant, T. K.** C. Vineeth and R.Sridharan, Daytime optical investigation of the equatorial mesopause energetics in the context of equatorial MLTI coupling: Recent results, *Ind J. Radio & Space Physics*, 36, 514-525, 2007.
22. Vineeth, C, **T. K. Pant**, S. V. Thampi, R. Sridharan, S. 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, *J. Geophys. Res.*, 113, A03302, doi:10.1029/2007JA012335, 2008.
23. Thampi, S. V, S. Ravindran, **T. 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), *Ann. Geophys.*, 26, 1751–1757, 2008.
24. Venkateswara Rao, N and A. K. Patra, **T. K. Pant**, S. V. B. Rao, Morphology and seasonal characteristics of low latitude E-region quasi-periodic echoes studied using large database of Gadanki radar observations, *J. Geophys. Res.*, 113, A07312, doi: 10.1029/2007JA012830, 2008.
25. S. Sripathi, S. Bose, A. K. Patra, T. K. **Pant**, B. Kakad, and A. Bhattacharyya (2008), Simultaneous observations of ESF irregularities over Indian region using radar and GPS, *Ann. Geophys.*, 26, 3197-3213, 2008
26. Sreeja, V, C. Vineeth, **T. K. Pant**, S. Ravindran and R. Sridharan, “Role of gravity wavelike seed perturbations on the triggering of ESF-First results from unique dayglow observations”, *Ann. Geophys.*, 27, 313–318, 2009.
27. Sreeja, V, C.V. Devasia, S. Ravindran, **T. K. Pant** and R. Sridharan, “Response of the equatorial and low latitude ionospheric F-region in the Indian sector to the geomagnetic storms of January 2005”, *J. Geophys. Res.*, 114, A06314, doi:10.1029/2009JA014179, 2009.
28. K. K. Kumar, C. Vineeth, T. M. Antonita, **T. K. Pant**, and R. Sridharan (2008), Determination of day-time OH emission heights using simultaneous meteor radar, day-glow photometer and TIMED/SABER observations over Thumba (8.5°N, 77°E), *Geophys. Res. Lett.*, 35, L18809, doi:10.1029/2008GL035376, 2008
29. Manju, G, **T. K. Pant**, S. Ravindran and R. Sridharan, “On the response of the equatorial and low latitude ionospheric regions in the Indian Sector to the large magnetic disturbance of 29 October 2003”, *Ann. Geophys.*, 27, 2539-2544, 2009.
30. Prabhakaran Nayar, S. R, T. J. Mathew, C.V. Sreehari, S. G. Sumod, C.V. Devasia, S. Ravindran, V. Sreeja, **T. K. Pant**, and R. Sridharan, “Electrodynamics of the Equatorial F region Ionosphere during Pre-sunrise Period”, *Ann. Geophys.*, 27, 107–111, 2009.

31. Sreeja, V, N. Balan, S. Ravindran, **T. K. Pant**, R. Sridharan and G. J. Bailey, “Additional stratifications in the equatorial F-region at dawn and dusk during geomagnetic storms: Role of electrodynamics”, *J. Geophys. Res.*, doi: 10.1029/ 2009JA014373, 2009
32. Vineeth, C, **T. K. Pant**, and R. Sridharan, Equatorial counter electrojets and polar stratospheric sudden warmings – a classical example of high latitude-low latitude coupling?, *Ann. Geophys.*, 27, 3147–3153, 2009.
33. Vineeth, C, **T. K. Pant**, K. K. Kumar, G. Ramkumar, and R. Sridharan, Signatures of low latitude high latitude coupling in the tropical MLT region during sudden stratospheric warming, *Geophys. Res. Lett.*, 36, L20104, doi:10.1029/2009GL040375, 2009.
34. Vineeth, C, **T. K. Pant**, and R. Sridharan, Equatorial counter electrojets and polar stratospheric sudden warmings—a classical example of high latitude-low latitude coupling? *Ann. Geophys.*, 27, 3147–3153, 2009.
35. Manju, G, **T. K. Pant**, C. V. Devasia, S. Ravindran, and R. Sridharan, electrodynamical response of the Indian low-mid latitude ionosphere to the very large solar flare of 28 October 2003 – a case study, *Ann. Geophys.*, 27, 3853-3860, 2009.
36. Sreeja, V, N. Balan, S. Ravindran, **T. K. Pant**, R. Sridharan and G. J. Bailey, Additional stratifications in the equatorial F-region at dawn and dusk during geomagnetic storms: Role of electrodynamics, *J. Geophys. Res.*, 114, A08309, doi:10.1029/2009JA014373, 2009
37. Sreeja, V., S. Ravindran, **T. K. Pant**, C. V. Devasia and L. Paxton (2009), Equatorial and low latitude Ionosphere-Thermosphere System response to the space weather event of August 2005, *J. Geophys. Res.*, 114, A12307, doi:10.1029/2009JA014491.
38. Sreeja, V., C. V. Devasia, S. Ravindran and **T. K. Pant**, Observational evidence for the plausible linkage of Equatorial Electrojet (EEJ) electric field variations with the post sunset F-region electrodynamics, *Ann. Geophys.*, 27, 4229-4238, 2009
39. Mathew, T. J, S. R. P. Nayar, S. Ravindran, **T. K. Pant**, Characteristics of the equatorial F-region vertical plasma drift observed during post-sunset and pre-sunrise hours, *Adv. Space Res.*, 46, 618-625, 2010.
40. Vineeth, C, **T. K. Pant**, S. Gurubaran, M.M. Hossain and R. Sridharan (2010), A comparison of optically measured daytime mesopause temperatures over tropics during solar maximum and minimum periods, *Earth Planet Space*, 62, 647–653.
41. **T. K. Pant**, C. Vineeth, S. G. Sumod and Lijo Jose, Evidence for the Lowering of the Centroid of Daytime Thermospheric O(¹D) 630.0 nm emission over the Magnetic Equator:- First results, *Adv. Space Res.*, 47, 729–735, doi:10.1016/j.asr.2010.08.011.
42. C. Vineeth, **T. K. Pant**, K. K. Kumar and S. G. Sumod (2010), The Tropical Connection to the Polar Stratospheric Sudden Warming through Quasi 16-day wave, *Ann. Geophys.*, 28, 2007–2013.
43. Hossain, M. M, **T. K. Pant**, C. Vineeth, S. G. Sumod and R. Sridharan (2010), Daytime Sodium Airglow Emission Measurements over Trivandrum using a Scanning Monochromator: First Results, *Ann. Geophys.*, 28, 2071–2077.
44. V. Sreeja, S. Ravindran, and T. K. Pant (2010), Features of the F3 layer occurrence over the equatorial location of Trivandrum, *Ann. Geophys.*, 28, 1741-1747, 2010
45. C. Vineeth, **T. K. Pant**, R. Sridharan (2011), Daytime Mesopause Energetics over a Tropical Station, Trivandrum (8.5°N, 77°E):- An Investigation using the Multiwavelength Dayglow Photometry, *J. Geophys. Res.*, 116, A01304, doi: 10.1029/2010JA015633.

46. C. Vineeth, **T. K. Pant**, S. G. Sumod, K. K. Kumar, S. Gurubaran, R. Sridharan (2011), Planetary Wave-tidal interactions over equatorial MLT region and their possible implications for the Equatorial Electrojet, *J. Geophys. Res.*, 116, A01314, doi: 10.1029/2010JA015895.
47. **T. K. Pant**, C. Vineeth and M. M. Hossain (2011), A brief review of Neutral Atmosphere-Ionosphere Coupling over the dip Equator, *Review Article*, Asian J. Phys., 4, 435-442, 2011
48. Sumod, S. G, **T. K. Pant**, C. Vineeth and M. M. Hossain “A new insight into the vertical neutral-ion coupling between the mesopause and ionosphere F region”, *Ann. Geophys.*, 29, 421–426, 2011.
49. Sumod, S. G, **T. K. Pant**, C. Vineeth and M. M. Hossain, “Response of Tropical Mesopause to the longest Annular Solar Eclipse of this millennium”, *In Press, J. Geophys. Res.*, 116, A06317, doi:10.1029/2010JA016326, 2011
50. Mridula, N., G. Manju, **T. K. Pant**, S. Ravindran, L. Jose, and S. Alex (2011), On the significant impact of the moderate geomagnetic disturbance of March 2008 on the Equatorial Ionization Anomaly region over Indian longitudes, *J. Geophys. Res.*, doi:10.1029/2011JA016615.
51. B. Kakad, D. Tiwari, and **T. K. Pant** (2011), Study of disturbance dynamo effects at nighttime equatorial F region in Indian longitude, *J. Geophys. Res.*, 116, A12, doi:10.1029/2011JA016626, 2011
52. V. Sreeja, **T. K. Pant**, L. Jose, and S. Ravindran, Westward electric field penetration to the dayside equatorial ionosphere during the main phase of the geomagnetic storm on 22 July 2009, *J. Geophys. Res.*, 116, A03303, doi:10.1029/2010JA016013, 2011
53. Yadav, S., Das, R.M., Dabas, R.S., **Pant, T. K.**, Gwal, A.K. (2011), Development of computerized ionospheric tomography technique and its application to study the Equatorial Ionization Anomaly over the Indian region, *IEEE explorer*, 10.1109/URSIGASS.2011.6050985, 2011
54. V. Sreeja, **T. K. Pant**, and L. Jose (2011), Reply to comment by S. Tulasi Ram et al. on “Westward electric field penetration to the dayside equatorial ionosphere during the main phase of the geomagnetic storm on 22 July 2009”, *J. Geophys. Res.*, 116, A08304, doi:10.1029/2011JA016710, 2011
55. L. Jose, S. Ravindran, C. Vineeth, **T. K. Pant**, and S. Alex (2011), Investigation of the response time of the equatorial ionosphere in context of the equatorial electrojet and equatorial ionization anomaly, *Ann. Geophys.*, 29, 1267-1275, 2011
56. P.B. Rao, G. Beig, R.S. Dabas, Geetha Ramkumar, S. Gurubaran, Kusuma G. Rao, P.K. Manoharan, A.K. Patra, Sudha Ravindran, Tarun K.Pant, M. Venkat Ratnam, S.C. Chakravarty, R. Sridharan (2012), An overview of CAWSES-India program with emphasis to equatorial atmospheric coupling processes, *J. Atmos. and Solar-Terres. Phys.*, 75–76, 98-114, 2012
57. C. Vineeth, **T. K. Pant**, K. K. Kumar, Lijo Jose, S. G. Sumod and S. Alex, Counter Equatorial Electrojets:- Analysis of the variability in Daytime Mesopause Temperature and Winds, *J. Solar Terr. Phys.*, 5–76, 115-121, 2012.
58. G. Manju, R. Sridharan, P. Sreelatha, Sudha Ravindran, M.K. Madhav Haridas, **Tarun K. Pant**, P. Pradeep Kumar, R. Satheesh Thampi, Neha Naik, N. Mridula, Lijo Jose, S.G. Sumod, A Novel probe for in-situ Electron density and Neutral Wind (ENWi) measurements in the near Earth space, *J. Atmos. and Solar-Terres. Phys.*, 74, 81-86, 2012
59. Sumod, S. G, **T. K. Pant**, Lijo, M. Hossain and K. K. Kumar (2012) “Signatures of sudden stratospheric warming on equatorial ionosphere thermosphere system”, *J. Planet. Space Sci.* (In Press)
60. B. Kakad, D. Tiwari, and **T.K. Pant** (2012), Study of post sunset vertical plasma drift at equatorial f-region using long-term (1990-2003) ionosonde measurements in Indian longitude, *J. Atmos. and Solar-Terres. Phys.*, (in press)

61. Simi, K. G., S. V. Thampi, D. Chakrabarty, B. M. Pathan, S. R. P. P. Nayar, and **T. K. Pant** (2012), Extreme changes in the equatorial electrojet under the influence of interplanetary electric field and the associated modification in the low-latitude *F* region plasma distribution, *J. Geophys. Res.*, doi:10.1029/2011JA017328, in press.
62. Manju, G. R, Sridharan, S. Ravindran, M. K. Madhav Haridas, **T. K. Pant**, P. Sreelatha, S. V. Mohan Kumar, Rocket borne in-situ Electron density and Neutral Wind measurements in the equatorial ionosphere: *Results from the January 2010 annular solar eclipse campaign from India*, *J. Atmos. & Sol. Terr. Phys.*, 86, 56-64, 2012.
63. Thampi S. V, R. T. Tsunoda, Lijo Jose, and **T. K. Pant** (2012), Ionogram signatures of large-scale wave structure and their relation to equatorial spread F, *J. Geophys. Res.*, 117, A08314, doi:10.1029/2012JA017592, 2012.
64. C Vineeth, **T K Pant** and M M Hossain (2012),, “Enhanced gravity wave activity over the equatorial MLT region during counter electrojet events”, *Ind. J. Radio Space Phys.*, 41 (2), 258-264, 2012
65. S G Sumod, **T K Pant** and S R P Nayar (2012),, “On the variability of the observed HF Doppler derived equatorial F-region plasma drifts during evening and morning hours and the chemical corrections therein”, *Ind. J. Radio Space Phys.*, 41 (2), 130-140, 2012
66. **T K Pant**, P Sreelatha, N Mridula, S Trivedi, R M Das, S Koli, R Sharma, J Girija, Arun Alex, K K Mukundan, S B Shukla, P Purushottaman, J N Santosh, Biju Thomas, M Srikant, R Sridharan, K Krishnamoorthy, Ratan Bisht, D V A Raghavamurthy, M P T Chamy & J D Rao, (2012), “Radio Beacon for Ionospheric Tomography (RaBIT) onboard YOUTHSAT: Preliminary results”, *Ind. J. Radio Space Phys.*, 41 (2), 162-168, 2012
67. Manju, G., M. K. Madhav Haridas., Sudha Ravindran, **Tarun Kumar Pant** and S. Tulasi Ram, “Equinoctial asymmetry in the occurrence of Equatorial Spread F over Indian longitudes during the moderate to low solar activity period 2004-2007”, *Indian J. of Radio & Space Phys.*, 41, 240-246, 2012
68. Das, S. S. K. K. Kumar, S. K. Das, C. Vineeth, **T. K. Pant** and G. Ramkumar (2012), “Long-term variability of mesopause temperature derived from two independent methods using meteor radar and its comparison with SABER and EOS-MLS, and a co-located multi-wavelength day-glow photometer, over the equatorial station Thumba (8.5°N, 76.5°E)”, *Int. J. Remote Sensing*, 33, No. 14, 20 July 2012, 4634–4647.
69. Joshi L. M, A. K. Patra, **T. K. Pant**, and S. V. B. Rao (2013), On the nature of low-latitude Es influencing the genesis of equatorial plasma bubble, *J. Geophys. Res. Space Physics*, 118, 524–532, doi:10.1029/2012JA018122, 2013.
70. Rastogi R. G, H. Chandra, L. Condori, M. A. Abdu, B. Reinisch, R. T. Tsunoda, D. S. V. V. D Prasad, **T K. Pant** and T Maruyama, Abnormally large magnetospheric electric field on 9 November 2004 and its effect on equatorial ionosphere around the world, *J. Earth Syst. Sci.* 121, No. 5, 1145–1161, 2012.
71. Madhav Haridas, M. K., G. Manju, and **T. K. Pant** (2013), First observational evidence of the modulation of the threshold height $h'F_c$ for the occurrence of equatorial spread F by neutral composition changes, *J. Geophys. Res. Space Physics*, 118, doi:10.1002/jgra.50331, 2013.
72. Simi. K. G, G. Manju, M. K. Madhav Haridas, S. R. P. Nayar, **T. K. Pant**, S. Alex (2013), Ionospheric response a geomagnetic storm during november 08-10, 2004, *Earth Planets Space*, 65, 343–350, 2013.
73. Perumalla Naveen Kumar, Nayab Rasool, K Madhu Krishna, A D Sarma, N Mridula, **Tarun Kumar Pant**, P Sreelatha, J Rosmi, Santosh Koli, Praveen Kumar & R Sharma, Ionospheric variability of low and equatorial latitude regions over India – A study using RaBIT onboard YOUTHSAT, (2013), *Indian Journal of Radio & Space Physics*, Vol 42, June 2013
74. KG Simi, C Vineeth, **T K Pant**, S Alex, (2013), Analysis of vertical drifts in the post sunset equatorial F-region during geomagnetically quiet and disturbed periods, *Indian Journal of Radio & Space Physics* 42, 229-239, 2013

75. D. Chakrabarty, B.G.Fejer, S.Gurubaran, **Tarun K. Pant**, M.A.Abdu, R.Sekar, (2014), On the pre-midnight ascent of F-layer in the June solstice during the deep solar minimum in 2008 over the Indian sector, *J. Atmos. & Sol. Terr. Phys.*, <http://dx.doi.org/10.1016/j.jastp.2014.01.002>
76. R.G. Rastogi, H Chandra , P Janardhan, Thai Lan Hong, Louis Condori, **T K Pant**, DVVD Prasad, B Reinisch, (2014), Ionospheric Spread-F during the magnetic storm of 22 January 2004 at stations in Asian Zone: Effect of IMF-Bz in relation to local sunset time, *J. Earth Space Science*
77. Duggirala Pallamraju, Jeffrey Baumgardner, Ravindra P. Singh, Fazlul I. Laskar, Christopher Mendillo, Timothy Cook, Sean Lockwood, R. Narayanan, **Tarun K. Pant**, and Supriya Chakrabarti, (2014), Daytimewave characteristics in the mesosphere lower thermosphere region: Results from the Balloon- borne Investigations of Regional-atmospheric Dynamics experiment, *J. Geophys. Res. Space Physics*, 119, doi:10.1002/2013JA019368.
78. M. M. Hossain, C. Vineeth, **T. K. Pant**, and S. G. Sumod, An Investigation on Substantial day-to-day Variability of Daytime Sodium Airglow measured using a Monochromator over a Tropical Station, (2014), *Earth Planets and Space*, in press
79. Manju G., Madhav Haridas M. K., G. Ramkumar, **Tarun K. Pant**, R. Sridharan and Sreelatha P, (2014), Gravity wave signatures in the dip equatorial ionosphere -thermosphere system during the annular solar eclipse of 15 January 2010, *Journal of Geophysical Research-Space Physics*, <http://dx.doi.org/10.1002/2014JA019865>
80. N. Mridula, **Tarun Kumar Pant**, C. Vineeth, K. Kishore Kumar, (2014), Features of the occurrence of the additional stratification on the bottom-side F region over the equatorial location of Trivandrum, <http://dx.doi.org/10.1016/j.asr.2013.12.036>
81. RS Bisht, AK Hait, PN Babu, SS Sarkar, A Benerji, A Biswas, AK Saji, **T.K. Pant**, ..., (2014), Limb Viewing Hyper Spectral Imager (LiVHySI) for airglow measurements onboard YOUTHSAT-1, *Advances in Space Research 2014*
82. MS Bagiya, R Sridharan, S Sunda, L Jose, **T. K. Pant**, R Choudhary, (2014), Critical assessment of the forecasting capability of L-band scintillation over the magnetic equatorial region–Campaign results, *Journal of Atmospheric and Solar-Terrestrial Physics*, (2014) DOI:10.1016/j.jastp.2014.01.012