

Dr R. VISHNU

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Space Physics Laboratory
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Research Area

Atmospheric boundary layer, Aerosols, Elevated layer transport

Area of Specialisation

lidars, sodars, radars, wind profilers, radiosondes, ozonesondes, cryogenic frostpoint hygrometer, automatic weather stations and various satellite observations

Academic Qualification

PhD (Physics), National Atmospheric Research Laboratory, Gadanki, Andhra Pradesh & VIT University, Vellore, India, 2018

MSc (Physics), Christian College, Chengannur, University of Kerala, India, 2011

BSc (Physics), Govt. Arts College, Thiruvananthapuram, University of Kerala, India, 2009

Publications

Vishnu, R., Kumar, Y. B., & Nair, A. K. M. (2020). An Investigation of the Elevated Aerosol Layer Using a Polarization Lidar Over a Tropical Rural Site in India. ***Boundary-Layer Meteorology***. <https://doi.org/10.1007/s10546-020-00573-2>

Vishnu, R., Kumar, Y. B., Sinha, P. R., Rao, T. N., James Jebaseelan Samuel, E., & Kumar, P. (2017). Comparison of mixing layer heights determined using LiDAR, radiosonde, and numerical weather prediction model at a rural site in southern India. ***International Journal of Remote Sensing***, 38(22), 6366–6385.

Varghese, M., Prabha, T. V., Murugavel, P., Anu, A. S., Resmi, E. A., Dinesh, G., Jaya Rao, Y., Nagare, B., Safai, P. D., Nair, S., Nandakumar, K., **Vishnu, R.** and Bhavani Kumar, Y. (2019) ‘Aerosol and Cloud Droplet Characteristics over Ganges Valley during Break Phase of Monsoon: A Case Study’, ***Atmospheric Research***, 220(1),125-140

Patel, A. K., Kumar, Y. B., & **Vishnu, R.** (2017). Dual polarization lidar for remote sensing of aerosols and clouds in the atmosphere. ***Current Science***, 113(6), 1134–1138.

Vishnu, R., Bhavani Kumar, Y., Rao, Y. J., Samuel, E. J. J., Thara, P., & Jayaraman, A. (2016). Lidar measurements of aerosol at Varanasi (25.28° N, 82.96° E), India during CAIPEEX scientific campaign. In ***Proceedings of SPIE - The International Society for Optical Engineering*** (Vol. 9876). <https://doi.org/10.1117/12.2223308>

Vishnu, R., Bhavani Kumar, Y., & James Jebaseelan Samuel, E. (2016). Measurements of long-range transport using two wavelengths and polarization lidar over tropical rural site Gadanki (13.45° N, 79.17° E). In *Proceedings of SPIE - The International Society for Optical Engineering* (Vol. 9879). <https://doi.org/10.1117/12.2223686>

Vishnu, R., Bhavani Kumar, Y., Sinha, P. R., Narayana Rao, T., & James Jebaseelan Samuel, E. (2016). Retrieval of mixed layer height (MLH) from lidar using analytical methods and estimation of MLH growth rates over a tropical site Gadanki. In *Proceedings of SPIE - The International Society for Optical Engineering* (Vol. 9879). <https://doi.org/10.1117/12.2223304>

Vishnu, R., Bhavani Kumar, Y., Rao, T. N., Nair, A. K. M., & Jayaraman, A. (2016). Development of lidar sensor for cloud-based measurements during convective conditions. In *Proc. SPIE-Int. Soc. Opt. Eng.* (p. 987619). <https://doi.org/10.1117/12.2223674>

Vishnu, R., Bhavani Kumar, Y., & James Jebaseelan Samuel, E. (2016). Lidar measurements of summer Dust transport in 2009 at Gadanki. In *18th Coherent Laser Radar Conference* (pp. 1–10).

Conferences and Scientific Campaigns attended

Participated and presented a paper in 18th Coherence Laser Radar Conference conducted at the University of Colorado, Boulder, the US in July 2016

Participated and Presented Paper on SPIE-Asia Pacific conference conducted at New Delhi on April 2016

Participated and presented a paper at the National Space Science Symposium 2016 conducted at Space Physics Laboratory (SPL), Trivandrum on February 2016

Participated in the Conference of Indian Aerosol Science and Technology Association (IASTA-2014) conducted at BHU, Varanasi on November 2014

Participated and presented a paper at the National Space Science Symposium 2014 conducted at Dibrugarh University, Assam on February 2014

Paper accepted for the presentation at 19th Coherence Laser Radar Conference conducted at the Okinawa University, Japan in June 2018

Participated in the scientific campaign Cloud Aerosol Interaction and Precipitation Enhancement Experiment (**CAIPEEX**) conducted jointly by IITM Pune and NARL Tirupati.

Participated in the scientific campaign for the calibration of ST radar facility at University of Calcutta

Scientific Skills

- 1 year Research Associate at Atmospheric Dynamic Branch at Space physics laboratory of Vikram Sarabhai Space Center
- Taken part in the development of Indigenous LIDAR systems at NARL and have working experience in the operation and analysis
- 7-year working experience in backscatter lidar, Scanning Lidar, Polarization lidar, multi-wavelength lidar and Raman Lidar
- Good analytical skill in satellite data processing including TERRA-MODIS, CALIPSO etc.