1. Brief self-Introduction:

RAKESH V.
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Instrumentation engineer experienced in the operation and maintenance of industrial instrumentation as well as research in radar remote sensing. I have immense experience in the project management, quality control procedure of instrument installation, calibration and commissioning in process industry. Through the installation, operation and maintenance experience in ST wind profiling Radar and its associated weather instruments, I have gained good knowledge in the remote sensing technology as well as how latest technologies can be used efficiently in scientific applications. Recently, I have been involved in the research on applications of wind profiling Radar on lower atmosphere as well as ionosphere, and published several papers in peer reviewed journals.

2. Contact Info:

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3. Education

- Ph.D. (Ongoing) in Radar remote sensing at under Faculty of Technology, Advanced Centre for Atmospheric Radar Research (ACARR), Cochin University of Science and Technology, Cochin -22.
- M.Tech (2014) in Electronics with specialization in Optoelectronics and Communication Systems from TKM Institute of Technology, Kollam under Cochin University of Science and Technology, with CGPA 9.18 and secured 6th Rank.
- B. Tech (2006) in Applied Electronics and Instrumentation Engineering from Mount Zion College of engineering, Pathanamthitta, affiliated to MG University Kottayam, with 71.34% marks.

- Higher Secondary Education (2002) SNSM Higher Secondary School, Kundara, Kollam, with 84%
- SSLC (2000) St. Aloysius High School, with 82.5%

4. Experience

- **Scientist-B (October 2021 - till date)**
  Advanced Centre for Atmospheric Radar Research,
  Cochin University of Science and Technology, Cochin -22
- **Project Scientist-B/Asst. System Engineer (March 2015-October 2021)**
  ST Radar Facility, Advanced Centre for Atmospheric Radar Research,
  Cochin University of Science and Technology, Cochin -22.
- **Project Assistant (July 2014- March 2015)**
  Optoelectronics and Laser Instrumentation lab, DST-BRNS Project,
  TocH Institute of Science and Technology, Arakunnam, Ernakulam
- **Associate Engineer (October 2010 – January 2012)**
  Instrumentation Department,
  Smart Institute of Control and Instrumentation.
- **Instrumentation Engineer (July 2008- August 2010)**
  Saudi Kayan Petrochemical Complex- Saudi Kayan Phenolics Facilities Project,
  SABIC, AL-Jubail, Kingdom of Saudi Arabia (KSA).
- **Lecturer-Instrumentation (July 2007-June 2008)**
  Department of Electronics and Instrumentation engineering
  Baselios Mathews II College of Engineering, Kollam
- **Sr. Instrument technician (July 2006- March 2007)**
  Instrument Installation and Maintenance Engineers, Bangalore.

5. Awards and Achievements

6. Research Interests

- Radar remote sensing technology
- Ionosphere dynamics and instrumentation
- Space weather

7. Research Projects

NIL

8. Significant Contributions

- Developed the studies on Ionosphere with the ST Radar wind profiler, which was the first time studied with a VHF radar at 205MHz frequency in the near equatorial region

9. Publications

9.1 Journals

1. Neethu Mohan, Samson, T.K., Paul, B. **Rakesh V.,** Rebello, R., Mohanan, P., **A CFI algorithm for estimating the Doppler peak of wind-profiling radar**, Remote Sensing Letters, https://doi.org/10.1080/2150704X.2022.2121185, 2022.
   Impact factor: 2.611
2. **V. Rakesh**, S. Haridas, C. Sivan et al., **Impact of the Hunga Tonga-Hunga Ha'apai volcanic eruption on the changes observed over the Indian near-equatorial ionosphere**, Advances in Space Research, https://doi.org/10.1016/j.asr.2022.07.004, 2022
   Impact factor: 2.611
3. **Varadarajan, R.**, Haridas, S., Manoj, M. G., Rebello, R., Paul, B., Unnikrishnan, K., et al. (2022). **Ionospheric nighttime F-region irregularities during geomagnetically quiet conditions as observed with 205 MHz VHF radar at an equatorial trough station, Cochin.** Journal of Geophysical Research: Space Physics, 127, e2021JA030129. https://doi.org/10.1029/2021JA030129, 2022.
   Impact factor: 2.811
4. Sivan, C., **Rakesh, V.,** Manoj, M.G., Satheesan, K., Abhilash, S. and Mohanakumar, K., 2022**. Detection of the impact of a tropical cyclonic system on the dynamics and energetics of the atmosphere using wind profiler radar**. Journal of Atmospheric and Solar-Terrestrial Physics, p.105896., 2022.
   Impact factor: 1.735
5. Manoj M.G., Sivan C., **Rakesh V**., Rejoy Rebello, Abhilash S., K. Mohankumar (2020) **Atmospheric response to the annular solar eclipse of 26 December 2019 over Cochin, India,** Advances in Space Research, https://doi.org/10.1016/j.asr.2021.07.001, 2021,
   Impact factor: 2.611
6. Sivan C, **Rakesh V**, Abhilash S, Mohanakumar K**. Evaluation of global reanalysis winds and high-resolution regional model outputs with the 205 MHz stratosphere–troposphere wind profiler radar observations.** QJRMeteorol Soc.2021; 147:2562–2579. https://doi.org/10.1002/qj.4041,2021
7. R. Remya, Manoj M.G., **Rakesh V.**, Mohanakumar K. and Sivan C, **Influence of High Latitude Sudden Stratospheric Warming on Tropical Weather: Observations from a 205 MHz Stratosphere Troposphere Radar and Surface Meteorological Parameters**, Earth and Space Science, 2020.
   Impact factor: 2.35.
8. Thara Anna Mathew, Neelam Malap, M.G. Manoj, Y. Jayarao, Kiran Todekar, **V. Rakesh**, Rejoy Rebello, K. Mohankumar, Thara Prabhakaran, **Pre-monsoon convective events**

and thermodynamic features of southwest monsoon onset over Kerala, India: A case study, Atmospheric Research 2020.
Impact factor: 4.676

9. Ajil Kottayil, Prince Xavier, K. Satheesan, K. Mohanakumar, **V. Rakesh, Vertical structure and evolution of monsoon circulation as observed by 205 MHz wind profiler radar,** Meteorology and Atmospheric Physics 2020.
Impact factor: 2.204.
10. Neethu Mohan, **Rakesh V,** M. G. Manoj, Titu K. Samson, Rejoy Rebello, K. Mohankumar, P. Mohanan, Binu Paul, **Potential application of 205 MHz Stratosphere-Troposphere Wind Profiling Radar in Ionospheric Studies: Preliminary Results,** IEEE Geoscience and Remote Sensing Letters 2019.
Impact factor: 3.833
11. **Rakesh V**., M.G. Manoj, K Mohankumar, Neethu Mohan, Titu K. Samson, **Detection of sub-metre scale irregularities in the low latitude Ionospheric E- layer using high VHF Radar at 205 MHz**, , Journal of Geophysical Research - Space Physics, 2019.
Impact factor: 2.8
12. K. Mohanakumar, Santosh K. R., P. Mohanan, K. Vasudevan, M. G. Manoj, Titu K. Samson, Ajil Kottayil, **Rakesh V**, Rejoy Rebello, and Abhilash S., **A Versatile 205 MHz Stratosphere Troposphere Radar at Cochin – Scientific Applications,** Current Science, 2018, Impact factor: 0.725
13. Mohanakumar K., Ajil Kottayil, V.K. Anandan, T. Samson, L. Thomas, K. Satheesan, R. Rebello, M.G. Manoj, **R. Varadarajan**, K.R. Santosh, P. Mohanan, and K. Vasudevan, **Technical Details of a Novel Wind Profiler Radar at 205 MHz,** Journal of Atmospheric and Oceanic Technology., 34, 2659-2671, https://doi.org/10.1175/JTECH-D-17-0051, 2017.
Impact factor: 1.952
14. T. K. Samson, Ajil Kottayil, Manoj M. G., Binoy B., **Rakesh. V**., R. Rebello, Vasudevan K., Mohan. P. Santosh K. R., Mohanakumar, **Technical Aspects of 205 MHz VHF Mini Wind Profiler Radar for Tropospheric Probing,** K, IEEE Geoscience and Remote Sensing Letters, doi: 10.1109/LGRS, 2016. Impact factor: 3.833
15. Kottayil, A., K. Mohanakumar, T. Samson, R. Rebello, M. G. Manoj, **R. Varadarajan**, K. R. Santosh, P. Mohanan, and K. Vasudevan, **Validation of 205 MHz wind profiler radar located at Cochin, India, using radiosonde wind measurements**, Radio Science, 51, 106–117, doi: 10.1002/2015RS005836. 2016.
Impact factor: 1.31

16. **Chromatic and Polarization Mode dispersion using Delay line filter in optical communication networks, Rakesh V,** and Arun Jose, International Journal of Science and Research Development, Volume 2 Issue 1 March 2014.
    Impact Factor: 4.396(in website).

MANUSCRIPT SUBMITTED/UNDER REVIEW

1. Neethu Mohan, Paul, B. **Rakesh V.,** Rebello, R., Abhilash S. (2020) **EMD based Intermittent and Ground clutter Removal in Radar Wind profilers** *(Under Review).*
2. Sreekumar Haridas, **Rakesh V.,** Manoj M.G., Unnikrishnan K, Binu Paul, Abhilash S., Mohanakumar K., **Geomagnetic storm-induced ionospheric perturbations over near-equatorial Indian stations**, Advances in Space Research
3. Syam Sankar, Achanya Unni V, Abhilash S., Abhiram Nirmal C. S., Vijaykumar P., Mohanakumar K., Rejoy Rebello, **Rakesh Varadarajan, Contrasting Response of the Delayed Withdrawal of South West Monsoon on the North East Monsoon Rainfall over Kerala during 2019 and 2020,** *(Under Review).*

9.2 Books and Book Chapters
9.3 Reports with ISSN/ISBN number
9.4 Conference Publications

1. Titu K Samson; Binoy Babu; V. K. Anandan ; **Rakesh V** ; Rejoy Rebello ; K Mohanakumar ; P Mohanan **Phased array of 619-element Yagi-Uda antenna for Wind Profiler Radar at Cochin University of Science and Technology,** 2019 URSI Asia-Pacific Radio Science Conference (AP-RASC), 2019, New Delhi, India. ***(conference paper)***

9.5 Popular Articles
10. Popular Lectures/Invited Talks

1. Topic: **Virtual tour to Advanced Centre for Atmospheric Radar Research (ACARR), CUSAT, Kochi**.
   Faculty Development Program- FDP on Climate change, organized by School of Environmental Studies, Cochin University of Science and Technology and sponsored by AICTE – Training and Learning (ATAL) Academy.
2. Topic: **Radar Remote Sensing,** in the workshop on Atmospheric studies as part of Tech Talent Programme of State Institute of Educational Technology (SIET Kerala), General Education Department, Government of Kerala held on 08th & 09th of June 2022 organized by SIET, Kerala in association with Cochin University of Science and Technology, at Advanced Centre for Atmospheric Radar Research.

11. Guidance-
Phd: (nos) - NIL

PG/UG: (nos) – 9 nos

12. Countries Visited as part of Professional Career

1. Kingdom of Saudi Arabia- Instrumentation engineer -Quality Control 2008-2011
2. United Arab Emirates – Consultant Engineer-Instrumentation and Control-2012
3. Chicago, USA- For AMS conference -2017

13. Expert Member in Research Committees

- Invited member of TRC sub committee ST Radar Facility, Calcutta University 2021-22

14. Any other information's