

COVER LETTER

Date: March 30, 2025

Dear Mr. Daniel Eidmann,

I am writing to express my keen interest in the position 2 as a scientific staff (Ref. No. 20250435_0002).

I am interested in improving the DWD's weather forecasts. I want to use my experience to solve real-world problems and expand my knowledge in this field. What interests me the most about this position is the opportunity to contribute to the development of scientific methods for the creation of a satellite nowcasting ensemble and their combination with radar and model data. With my expertise in Linux systems, the radiative transfer model and the processing of GNSS signals, along with my understanding of Python, I am ready to make a valuable contribution to your team.

I am well prepared for this position by my research and academic experience. My recent work as a research intern at the Institute of Environmental Physics in Heidelberg University on "Retrievals of atmospheric CO₂ from simulated satellite measurements of backscattered near-infrared sunlight: accounting for aerosol effects" strengthened my numerical algorithmic skills and simulation with remote sensing data for creating accurate simulation models. My prior project, "Raytrace modeling of the line of sight for the GNSS satellite," set out to investigate the atmospheric delay of a ray that comes from the GNSS satellite to the receiver. A ray tracing model using the Eikonal equation for electromagnetic waves propagating through a slowly changing medium. I developed this model with Python technique to know how the trace gases and water vapor influence signal direction. As a research assistant at the University of Bremen, I improved my ability to prepare model, and analyze remote sensing data with Python.

During the COVID lockdown, I needed data science skills to enhance my atmospheric science research. I enrolled at the prestigious Indian Institute of Technology, Madras, to receive programming and data science instruction. I can conduct research in this field using my knowledge of data science.

I would be pleased to discuss how my qualifications and background fit your research group's objectives.

Thank you for your time and interest in my application. I have submitted my complete application documents via the electronic application portal.

Yours sincerely
Sipra Jana