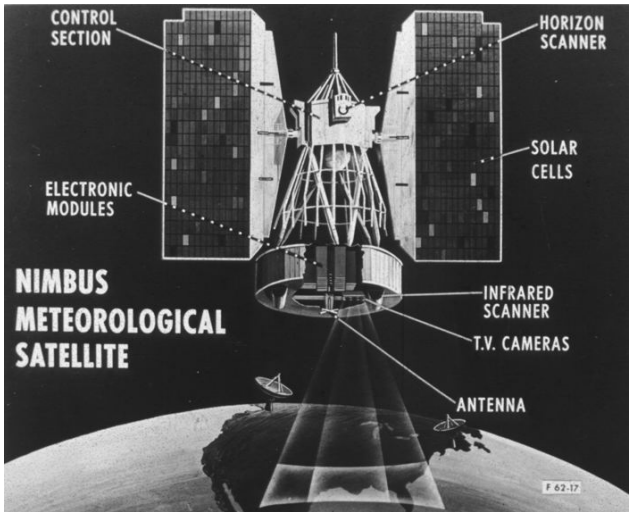
Centre d'Étude en Météorologie Satellitaire (CEMS)
CNRM/UMR 3589 Météo-France/CNRS
Avenue de Lorraine – B.P. 50747 – 22307
LANNION Cedex - France

Radiative transfer modelling to simulate the Pressure Modulated Radiometer (PMR) and the Stratospheric Sounding Unit (SSU) instruments from the 1970s



Subject: 18-months scientist position in Early Satellite Meteorology (W / M)

Starting date: **July 1st, 2022**; funded by Copernicus - C3S2_314

Area of expertise: Atmospheric sciences, Meteorology, Remote Sensing, Radiative Transfer

Context: As part of the EU-funded European Copernicus Climate Change Service (C3S) program, the European Center for Medium-Range Weather Forecasts (ECMWF) has launched an ambitious call for tender to rescue, evaluate and prepare observations from several satellite instruments that flew in the 1970s to the 1980s with the scope of feeding its databases for re-analysis or climate studies. In response to this call, the Centre National de Recherche Météorologique (CNRM, Météo-France/CNRS) within a consortium composed of SPASCIA, the Met-Office, the University of Reading and ICARE, will contribute to this perspective for infrared instruments. As part of this project CNRM is focused on the Pressure Modulated Radiometer (PMR, on-board Nimbus satellite) and Stratospheric Sounder Unit (SSU, on-board TIROS-N satellite) that flew in space between 1975 and 1983. To achieve this, CNRM will rely on its expertise in infrared radiative transfer modeling for satellite data assimilation.

Workplace: The candidate will be assigned to the "Sondage" team of the Centre d'Etude en Météorologie Satellitaire (CEMS) attached to the CNRM. The work will be done in the city of Lannion (22, Côtes d'Armor).

Duration : 18 months.

Main duties and key responsibilities: Under the guidance of the team leader and in close collaboration with the other team members, the candidate will perform the following tasks:

- Analysis of the spectral characteristics of the targeted infrared instruments: PMR and SSU,
- Simulations from Line-By-Line model LBLRTM,
- Calculation of the coefficients of the RTTOV radiative transfer model for these instruments,
- Evaluation of RTTOV simulations with a wide set of atmospheric profiles,
- Report writing for the project.

These tasks will be carried out in a context of European collaboration. Interactions with other organizations, including those that make up the consortium, will be required.

Qualifications and experience required: Ph.D. level in atmospheric sciences or engineering level with research experience. Young researchers with the required skills can still apply. Experience in radiative transfer modelling will be appreciated. The candidate should have a strong knowledge of scientific computing languages (Fortran, Shell script, Python, IDL...) as well as the interpretation of data in different formats (ASCII, NetCDF, HDF). Excellent written and oral communication skills in French and/or English language are necessary.

Personal attributes: The candidate will have to demonstrate scientific curiosity, autonomy, team spirit, responsiveness, analytical skills and rigor in the interpretation of results and their formatting. He will have to be able to report his activity to the project team. In this context, some trips to Europe are planned.

Salary: The gross monthly salary is between € 3280 and € 3890 depends on experience and qualifications.

How to apply: For full consideration, an application letter including a detailed statement of scientific interests, along with a curriculum vitae (including professional experience, publications and conferences, computer skills and languages practices) and the names, telephone and email addresses of two referees should be sent by email before **March 31, 2022** to jerome.vidot@meteo.fr and jean-marie.lalande@meteo.fr.

Any questions or requests for additional information may be addressed to the two e-mail addresses mentioned above.