



Centre d'Etude en Météorologie Satellitaire (CEMS)

CNRM/UMR 3589 Météo-France/CNRS
Avenue de Lorraine – B.P. 50747 – 22307
LANNION Cedex - France

Radiative transfer modeling to simulate infrared satellite instruments from the 1970s to the 1990s

Subject: Postdoctoral fellowship of 8 (+10) months in Satellite Meteorology (W / M)

Starting date **April 1st, 2019**; funded by Copernicus - C3S_311c_Lot1

Area of expertise: Atmospheric sciences, Meteorology, Remote sensing

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 a number of satellite instruments that flew in the 1970s to 1990s to feed its databases for re-analysis or climate studies. In response to this call, Météo-France within a consortium composed of SPASCIA, the Met-Office, the University of Reading and ICARE, will contribute to this perspective for infrared instruments. For this, Météo-France 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 Centre National de Recherche Météorologique (CNRM-UMR 3589 Météo-France / CNRS). The work will be done at the Centre de Météorologie Spatiale at Lannion (22, Côtes d'Armor).

Duration : 8 months with 10 months extension, availability from 1st April 2019.

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 (HIRS, MVIRI, IRIS, ...),
- Calculation of the coefficients of the RTTOV radiative transfer model for these instruments,
- Evaluation of RTTOV simulations with a wide set of atmospheric profiles,
- Characterization of modeling errors from different versions of the line-by-line model,
- 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 with at least a first postdoctoral experience. Young researchers with the required skills can still apply. The candidate should know radiative transfer modeling and atmospheric sciences in order to be able to evaluate simulations of satellite observations in the infrared. The candidate should have a strong knowledge of scientific computing languages (Fortran, Shell

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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 € 3280 for a researcher profile (net amount, indicative € 2630).

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 **31st January 2019** to jerome.vidot@meteo.fr and pascal.brunel@meteo.fr.

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