Retrieval of aerosol and surface albedo properties from spaceborne optical remote sensing
Post-doctoral fellowship at CNRM (Météo-France / CNRS)

Location: CNRM, Toulouse, France
Application deadline: April 30th 2018
Duration: 1-year contract (renewable)
Start: June-September 2018

Context:
The open position is to join the optical remote sensing (RS) team of the CNRM laboratory (http://www.umr-cnrm.fr/). CNRM is the research laboratory of Météo-France (the French meteorological service) and contributes through the RS team to the observation of land surfaces (albedo, BRDF) and of the atmosphere (aerosols) through spaceborne remote sensing techniques. In the past years, the RS team of the CNRM has developed a method for the retrieval of aerosol properties from space (Carrer et al., JGR, 2010) using visible and near infrared observations from the geostationary satellite Meteosat Second Generation (MSG) from EUMETSAT. The retrieval strategy is based upon the distinct directional and temporal properties of the reflectance of aerosols and surfaces. The method, named AERUS-GEO, provides a daily average of the aerosol content and type. Also, estimates of surface albedo (and BRDF) are provided. Today, a new version of the algorithm is in development with the goal of delivering instantaneous estimations of aerosol properties (aka. retrieval at the acquisition time of MSG).

The objective of the open position is to participate in the improvement of the aerosol/albedo retrievals performed by the AERUS-GEO algorithm. In particular, the post-doctoral fellow shall contribute to the scientific and technical developments that are necessary to achieve the instantaneous aerosol retrieval. The candidate will propose and compare different approaches, which shall be evaluated using AERONET ground measurements and other satellite aerosol products. The candidate will communicate her/his original findings in international conferences and in scientific articles.

Required skills:
The candidate must hold a PhD in optical remote sensing. Experience on atmospheric/surface radiative transfer and/or retrieval of physical properties of the atmosphere (aerosol load) and of the surface (BRDF, albedo) from satellite data is required. Good skills in preparation of technical documents, English language, programming and graphics software (python, fortran 90) are mandatory.

Practical aspects:
The candidate will be based at the CNRM laboratory in Toulouse. Candidates will be considered as applications are received (no later than April 30th). The successful applicant will be hired for 1 year with the possibility of being renewed at the end of the contract. The net monthly salary will be between 2600 and 3200 euros based on experience. This includes French social security.

Application procedure:
Interested candidates should send the following documents by e-mail to Drs. Dominique Carrer (dominique.carrer@meteo.fr) and Xavier Ceamanos (xavier.ceamanos@meteo.fr):
- Curriculum Vitae detailing experience in research and other skills. A list of publications and communications in conferences is mandatory;
- A sample of research publication or communication;
- Application letter explaining research interests and motivation for the job;
- The names and contact details of two referees (recommendation letters shall be appreciated but are not compulsory).