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The royal Belgian Institute for Space Aeronomy (IASB-BIRA) is a scientific institution of the Belgian Federal Space Pole located in Uccle (Brussels). Its principal mission is the development of scientific and technological expertise in the field of aeronomy. One of its research domains is planetary aeronomy, which focuses on the atmospheres of terrestrial planets. IASB-BIRA has developed expertise in both space based observations and theoretical understanding of planetary atmospheres, and has also built instruments for space missions to Venus and Mars. Most recently, its NOMAD instrument has been selected for the ExoMars Trace Gas Orbiter.

More information about the Institute, its activities and the projects in which it is involved: see www.aeronomie.be

To support the activities of the Planetary Aeronomy division,
we are looking for a

scientist (M/F)

The work will consist in supporting the activities of the Planetary Aeronomy group and in particular those related to the characterization of the Martian composition using UV/Visible space instruments and in particular using the UVIS channel of the NOMAD instrument. Specifically, the candidate will be responsible of:

- Developing, improving and maintaining codes and algorithms for the analysis of the UV/Visible spectra acquired by space-borne instruments. This includes the use and development of an existing radiative transfer code optimized for the UV/visible spectral domain;
- Interpretation and gathering of various data relevant to the Martian atmosphere and interaction with the surface;
- Organization of a specific team working on UV/visible instruments, from the design and the writing of scientific requirements up to the analysis of the data, including laboratory experiments to support the flight instruments (full characterization of space instruments: characterization of detectors –dark current, flat field, linearity, dead/bad pixels; spectral and radiometric calibration; stray light etc) .

In particular the candidate will contribute to:

- Improve and optimize the existing software codes (Fortran and Matlab), implementing new ideas; in particular for the measurements of clouds and aerosols and their characterization from space;
- Develop new functionalities for a better and improved characterization of the surface in the radiative transfer code already existing at IASB-BIRA;

- Support the development of tools to investigate the UVIS data in order to produce higher level data (densities, aerosol loading and characteristics, etc).

Required competences

The candidate must hold a PhD degree in Sciences or similar with at least 10 years experience.

Programing skills:

- Very good knowledge of programming languages (Fortran and Matlab) under UNIX and windows environments;
- Knowledge of different file formats (HDF5, PDS3, PDS4, FITS): able to write specific tools to read/write/convert files;
- Good knowledge of UNIX and Windows environments;
- Knowledge of radiative transfer theory is a prerequisite;
- Expertise in the laboratory (instrumental, radiometry and spectroscopy) is a prerequisite

Generic skills:

- Knowledge of English (written and spoken).
- High level of autonomy, as well as active participation in a small team.
- Good communication skills (presenting results to the team and to the scientific community); Ability to write reports, documentation and scientific papers.
- Interest for the scientific activities of the team and of the institute.

We offer:

- The candidate should be available on 1st Nov 2017.
- Salary is according to the federal regulations for the scientific contractual personnel.
- Dynamic working environment with international contacts.
- Refund of commuting expenses when using public transportation or bicycle.
- Access to special advantages arranged for the employees of the federal scientific institutions (e.g., collective hospital insurance and possibility to follow trainings).

For more information about this vacancy, please contact Dr. Ann C. Vandaele at a-c.vandaele@aeronomie.be.

Applications:

Applicants should send a complete CV, together with their letter of motivation preferably by email to: a-c.vandaele@aeronomie.be and in CC to: hr-ae@aeronomie.be with reference: "SCI_D43_UVSCI"

Or by normal post to:

HR Department
BIRA-IASB
HR Department
Ringlaan 3
1180 Ukkel (Brussels)

Deadline for applications: October 24 2017