VACANCY

BIRA·IASB

BIRA-IASB is hiring:
PhD Student (h/f)

We are looking for a Master student willing to start a PhD in space sciences in support to the H2020 RoadMap project

Division, contexte

You will work in the "Planetary Atmospheres" group, whose activities focus 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.

Within the frame of the RoadMap H2020 project (roadmap.aeronomie.be) we propose to study the impact of the micro-properties of dust and clouds on the analysis of data acquired by space instruments orbiting around Mars, as well as their role in the global circulation and dynamics of the atmosphere.

Job description

The work would consist in developing and testing radiative transfer codes and consider different types, shapes, and sizes of dust particles to investigate their impact on the detection of trace gases in the atmosphere of Mars. The focus will be on improving the analysis of the spectra recorded by the NOMAD instrument on board ExoMars TGO, both in the IR and the UV, and to investigate the impact on the micro-properties of dust on these analyses. Spectra recorded in solar occultation and nadir viewing mode will be analyzed.

In particular, the candidate will contribute to:

- Improve and optimize the existing software codes (Fortran, C, Matlab, Python, IDL);
- Develop new functionalities for a better and improved characterization of the dust and clouds in the radiative transfer code already existing at IASB-BIRA;
- Analyze NOMAD spectra and investigate the impact of dust on the retrieval of trace gases

More about BIRA-IASB

The Royal Belgian Institute for Space Aeronomy (BIRA-IASB) is a Belgian Federal Scientific Institution. Since its foundation in 1964, BIRA carries out research and provides public service in the field of space aeronomy, i.e. the physics and chemistry of the Earth's atmosphere and of other planets, and of cosmic space.

Our scientists use instruments on the ground, in the air, on board balloons or in space, and numerical models.

www.aeronomie.be

Competences

The candidate must hold a Master degree in Sciences, Engineering or similar

Required skills:
- Good knowledge of programming languages (Python, C, Fortran, IDL or MATLAB) under UNIX and Windows environments;
- Knowledge of radiative transfer theory, space science and instrumentation, infrared or ultraviolet spectroscopy

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 October 2021.
- Possibility to acquire a bonus for bilinguism (Dutch/French)
- Possibility of training (to be followed during working hours)
- Pleasant working atmosphere in a scientific environment located in a green setting in Uccle, Brussels.
- Attractive annual leave policy (minimum 26 days per year)
- Options to balance professional and personal life (flexible schedule) within the 38 hours week
- Full refund of commuting expenses when using public transportation, compensation when using the bicycle
- Possibility to work from home
- Access to special advantages arranged for the employees of the federal scientific institutions: museum card, hospitalization insurance, reductions via the Fed + card, etc.
- Company restaurant with reasonably priced hot meals and salad bar.
- On-site childcare during school holidays in July and August.
- Dynamic working environment with strong international orientation.

Interested ?

Please send your motivation letter and CV to a-c.vandaele@aeronomie.be
and in cc hr-ae@aeronomie.be with reference: **«SCI_D43_PHDSCI»**
Deadline : August 20 2021