

Analysis of the NOMAD visible spectral data from the ExoMars orbiter mission to Mars

Code: 21/02

Company: The Open University

Location: The Open University, Milton Keynes

Company Description:

The Open University is an internationally recognised research leader in planetary and space sciences and the development of space instrumentation. Covering a wide range of disciplines from astrobiology to electrical engineering, geochemistry to quantum physics; and technologies from electronic imaging to remote sensing, mass spectroscopy to novel sensors; Open University researchers are often found in key roles in international space science missions such as Rosetta, ExoMars, Euclid, JUICE and Athena; with much of the activities performed in collaboration with Space Agencies, Universities and companies around the World. This research also informs our world-leading teaching in the Physical Sciences, Engineering and Earth and Environmental Sciences

Project Description:

The Ultraviolet and Visible Spectrometer (UVIS) is part of the NOMAD instrument on-board the European Space Agency's ExoMars Trace Gas Orbiter (TGO) mission to Mars. UVIS has collected a large quantity of data with over two million spectral measurements of the martian atmosphere. The proposed project will primarily focus on the identification of spectral features in the UVIS visible data and explore innovative methods to automate the detection of such features. The successful candidate will have an exciting opportunity to work at the cutting edge of martian research within the ExoMars team.

Applicant Specification:

Project holder responsibilities:

1. Analysis of UVIS visible spectral data
2. Create novel methods for automating the detection of spectral features
3. Analyse processed data
4. Write-up of results and algorithms

The project offers the applicant:

- To work as part of a spaceflight team for the latest European Space Agency mission to Mars

- Development of skills relating to the analysis, processing and visualisation of spacecraft data
- Opportunities to develop programming skills in Python

Person specification:

- Studying for a degree in Physics/Maths/Computing or related field.
- Knowledge of computer programming, for example Python or MATLAB
- Confident using Microsoft Office
- Work well in a group / good team working and interpersonal skills
- Self-motivated and well organised

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date around June 2021 to attend the SPIN Induction day hosted by the Satellite Applications Catapult, and completion before September 2021 for the Showcase that month. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm on Friday 29 January 2021

Applications should be made through the online form attaching a CV, before the closing date. Please note that elements of the form left incomplete will be deemed to render the application ineligible. They will be checked for eligibility and forwarded to the employer.