

Processing X-ray data for the Soft X-ray Imager on SMILE

Code: 21/01

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:

Solar Magnetosphere-Ionosphere Link Explorer (SMILE) is a joint mission between ESA and the Chinese Academy of Sciences, with a science goal of studying the dynamic interaction between the solar wind and the Earth's magnetosphere through simultaneous observations in the ultraviolet and low-energy X-ray regime. This project is an opportunity to join the Open University research team in developing and testing the imaging detectors for the Soft X-ray Imager (SXI) on SMILE.

The team at the Open University's world-leading research centre, the Centre for Electronic Imaging, is responsible for the characterisation and radiation damage studies of the sensors, modelling the radiation background and developing in-flight and ground-based software that help to optimise the mission's scientific return. The internship will include a mixture of programming and hands-on laboratory work in handling the detectors and camera system whilst helping to develop experimental tests to characterising the Engineering Model sensors for this international space-based observatory.

The project offers the applicant:

A clear goal will be agreed upon at the start of the internship, depending on the intern's specific interests, skillset and background and current progress in the SMILE work packages. The work will focus on the characterisation and calibration of the un-irradiated CCDs. The intern's project goal will be designed to fit in with the SMILE team, and either assist in currently planned work or carry out extension work.

Person specification:

This internship would suit a keen and enthusiastic individual looking to gain experience in the field of space instrumentation, with a background in Physics, Engineering, Computer Science, or a related discipline. Experience in Matlab programming and general laboratory equipment (vacuum systems, temperature controllers) would be desirable but similar or relatable experience and a desire to learn are equally valued.

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.