JOC-VN-194

Job title: Responsible Officer for Bolometer Diagnostics

The primary role is the support of all JET bolometer systems and to provide calibrated/validated data. However, this also means a broad involvement with the scientific programme much of which relies on bolometer data.

Background

Bolometer systems measure power losses from the plasma due to electromagnetic radiation. This data is essential both for scientific interpretation of many JET experiments and for plasma operation. There has been ongoing work to improve the systems for specific purposes: For example, to measure the toroidal asymmetry of radiation during disruptions and faster electronics so that the evolution of ELMs can be resolved. The bolometers are one of the systems managed by the Plasma Wall Interaction Group whose other responsibilities include Langmuir probes, pressure measurements, disruption mitigation valves and visible spectroscopy.

Main responsibilities

The scope may be adjusted depending on the specific skills and experience of the appointee but our target is to find a candidate capable of taking on the following responsibilities:

1. Operate and maintain JET's bolometer system hardware to ensure that it is available as required by the JET programme.
2. Calibrate the bolometer systems periodically.
3. Maintain the software used to produce inter-shot basic analysis of the data (ppfs).
4. Provide high level analysis of specific data e.g. by tomographic inversion of bolometer camera data to give 2D radiation distributions.

Special Features

Although the primary responsibility is for the bolometers, the Plasma Operations and Boundary Unit functions as a team and the secondee may be asked to assist with operation and/or maintenance of other systems for which the unit is responsible.

Desirable qualifications, aptitudes and experience

1. The ideal candidate will have practical experience of technically comparable systems and of the type of data analysis techniques applicable to bolometer systems.
2. Ability to work within a team in a regulated and safety conscious work environment is essential.
3. Fluency in a high level computer language such as Python or IDL and experience in maintaining software used by others would be an advantage.

Notes

1. The official end date for this secondment is Dec. 2018 due to the current NJOC budget.
2. Participation in the JET scientific programme is possible. Support for this work would come from the sending Research Unit and be limited to 20% of working time.
3. Publications are encouraged, both through the sending Research Unit, and, for work directly linked to this post, through NJOC.

4. Primary supervision will be by M.Stamp.
5. There will be no direct staff or financial responsibility.
6. Work on hardware systems must comply with the CCFE safe system of work.

For more information contact: Mike Stamp, Plasma Wall Interaction Group Leader via e-mail: mike.stamp@ccfe.ac.uk

Applications through the Head of Research Unit to the NJOC Senior Manager, Tim Jones by February 27th 2016. Later applications may be considered if the post remains unfilled.

Note that candidates who are not EU nationals will need to obtain a visa to work in the UK. CCFE can provide advice on the issues involved and candidates are recommended to investigate before interview.