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Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

ITER Scientist Fellow (Pedestal Confinement & Stability Modelling)

Purpose

The aim of this fellowship is to support the ITER Project and, in particular, the ITER Organization Central Team (IO-CT) through contributions to the analysis of plasma confinement and stability physics in the edge pedestal of ITER plasmas and by the definition of relevant physics requirements to meet the ITER operational and performance specifications. This involves close collaboration with the IO-CT and with the ITER Members' fusion communities and the ITPA in the development and implementation of relevant activities.

Major Duties/Responsibilities

- Contributes to numerical simulations of pedestal plasmas and their MHD stability in ITER plasma scenarios, of the associated power and particle fluxes to plasma facing components and consequences for core plasma impurity contamination by ELMs.
- Advances the theoretical understanding and modelling capabilities for pedestal transport and edge MHD stability and control in ITER plasma scenarios.
- Contributes to the analysis of the various approaches considered for edge MHD stability control in ITER scenarios (namely active control by 3-D fields and pellet pacing and possible operation in naturally ELM-less regimes) and evaluates the consequences for ITER plasmas fusion performance and for the associated power and particle fluxes to plasma facing components and core plasma impurity level.
- Supports the IO-CT in the definition and implementation of a programme of experimental and modelling R&D activities on the analysis of transport and stability physics in ITER plasma scenarios, with specific emphasis on physics processes in the edge pedestal and their influence on plasma performance in coordination with the ITPA;

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Qualifications and Experience

- ***Education/ Know-How:***
  - Extensive experience in the modelling of plasma processes in the plasma edge pedestal.
- ***Technical experience:***
  - Deep knowledge of transport and stability processes in the edge pedestal of fusion plasmas, as evidenced, eg, by many publications in recognized scientific journals.
- ***Social skills:***
  - Ability to communicate effectively;
  - Ability to work effectively in a multi-cultural environment;
  - Ability to work in a team and to promote team work.
- ***Language requirements:***
  - Working knowledge in English (written and spoken).
- ***Computer and IT skills:***
  - Expertise in numerical techniques for the implementation of sophisticated plasma simulation and analysis tools is essential.