

5. PARTICIPATION ON THE TJ-II PROGRAMME

This project will have four main research lines, where the following main activities are foreseen:

- *Microwave reflectometry*
 - Continuation of the scientific exploitation of the frequency hopping correlation reflectometer, namely to study the formation of shear layers at specific plasma locations.
 - Development of another channel on the same frequency band (Q 33-50GHz) to allow simultaneous correlation measurements using the existing and the new hopping systems.

- *Heavy ion beam diagnostic*
 - Improvement of the signal-to-noise ratio;
 - Participation on the scientific exploitation of the diagnostic.

- *Electrode biasing experiments*
 - Participation on the electrode biasing experiments with negative voltages aiming at achieving steady-state discharges with enhanced confinement
 - Implementation on TJ-II of a Gundestrup probe of TJ-II with the aim of measuring the parallel and perpendicular flows in the edge plasma.
 - Design and construction of a Retarding Field Energy Analyser Probe to measure the edge ion temperature.

- *Control and data acquisition*
 - Participation on the development of a JAVA Web Start platform for control, data acquisition and remote participation.