Département des Accélérateurs, de Cryogénie et de Magnétisme

Séminaires du DACM

Mardi 09/03/2010, 11:00

Bat 141, salle André Berthelot (143) , CEA Paris-Saclay

Pietro Barabaschi, Head of Broader Fusion Development Department

Max-Planck-Institut für Plasmaphysik, Garching

The JT-60SA project

The JT-60SA experiment is one of the three projects to be undertaken in Japan as part of the Broader Approach Agreement, conducted jointly by Europe and Japan, and complementing the construction of ITER in Europe. The mission of JT-60SA is to contribute to the early realization of fusion energy by addressing key physics issues for ITER and DEMO. It is a fully superconducting tokamak capable of confining break-even equivalent deuterium plasmas. It is designed to help ITER and to optimise the plasma configurations for ITER and DEMO. With a plasma current of 5.5MA and a major radius of ~3m, it will typically operate for 50-100 second pulses.

In 2008 the BA Parties, prompted by cost concerns, asked the JT-60SA Team to carry out a re-baselining effort with the purpose to fit in the original budget while aiming to retain the machine mission, performance, and experimental flexibility. Subsequently the Integrated Project Team has undertaken a machine re-optimisation followed by engineering design activities aimed to reduce costs while maintaining the machine radius and plasma current. This effort led the Parties to the approval of the new design in late 2008 and hence detailed design and procurement activities have started.

Within the European contributions CEA plays a key role as it provides about half of the Toroidal Field Magnet, the main cryogenic system, a significant proportion the magnet power supplies as well as it will host the test facility for the magnet.

This talk will describe the design evolution and status of JT-60SA.

Contact : -