

Title : Tokamaks : experimentation
Acronym : C2
EU Coordinator : Rémy GUIRLET (CEA/IRFM)
Teaching staff : Nicolas FEDORCZAK, Rémy GUIRLET Julien HILLAIRET, Joëlle ACHARD, Riccardo RAGONA, Yann CORRE, Valeria OSTUNI, Jorge MORALES, David ZARZOSO, Alain GHIZZO, Remy NOUAILLETAS, Mireille SCHNEIDER, Florian LEBLOND, Bernhard SCHMID, Mathieu PERET, Frédéric CLAIRET, Stéphane HEURAUX, Vojtech SVOBODA, Ondrej GROVER
Pre-requisites : First year of MSc in Physics or Engineering Schools.
Credits : 3 ECTS
Language : French/English
Keywords : Thermonuclear magnetic fusion - Tokamaks – Experimentation – Hot plasmas.
Students work in pairs on practical work supervised by IRFM physicists and engineers, on the facilities those use for their own research.
Each student performs two experiments from the list below, one of which (if possible) concerns work on data from a tokamak (COMPASS, GOLEM, WEST).
These experiments are shared with the students of the Erasmus Mundus Master "Fusion-EP" (European Master of Science in Nuclear Fusion & Engineering).
The list of subjects can evolve according to the availability of the facilities and the supervisors:
<ul style="list-style-type: none"> • Monitoring the inner wall of the tokamak with the articulated inspection arm • Mode conversion for the lower hybrid frequency (LH) wave • Numerical models • Thermomechanical qualification of the components in front of the plasma • Heat flux on the tokamak walls exposed to the plasma - analysis by infrared thermography • Superconducting properties of tokamak coil materials • Contamination of components exposed to plasma - analysis by thermo-desorption • Remote control and experiments on the GOLEM tokamak (Prague) • Analysis of experiments on the COMPASS tokamak (Prague) • Analysis of experiments on the WEST tokamak (Cadarache)

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