

SGR 2021 - Gallart: Plasma, Fusió, Ciència Computacional, Mètodes Numèrics

Description

This project makes advancements in the study of the reactor relevant plasma fuel mixture of deuterium-tritium, D-T. The team is strongly leading and supporting several experiments at the Joint European Torus where we have achieved two times the fusion energy world record. The assessment of the alpha role (Helium ashes), fast particles and plasma heating reported in this project is providing valuable insight for ITER's future operation. In addition, the project also tackles the study of electromagnetic heating of the stellarator W7X.

Fusion physics are becoming computationally more demanding as experimental devices grow in size and research asks for more accurate predictions. The team, expert in HPC, also optimizes present codes to be able to cope with the analysis under the scope of the present project.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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