Contribution ID: **3385** Type: **not specified**

P4.1008 Development of 3D Geant4 tokamak model for particle interaction

Thursday, 11 July 2019 14:00 (2 hours)

See full abstract here
http://ocs.ciemat.es/EPS2019ABS/pdf/P4.1008.pdf

A 3D model of transport and interaction of particles with tokamak components using Geant4 toolkit is presented. Main goal was to analyse impact of population of relativistic electrons on vacuum vessel and other critical components. These so-called runaway electrons (RE) behave like in a particle accelerator and can cause damage by depositing large amounts of energy in short duration. The model was tested using 3D design of COMPASS tokamak, it is capable of simulating trajectories, generation of secondary particles and energy deposition. By providing initial estimates of RE beam, it can be used for better understanding of diagnostic systems and their response, as well as using the results for heat transfer and damage of components.

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Session Classification: Poster P4

Track Classification: MCF