Abstract Submitted
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**Simulation of disruptions on C-Mod in support of the new outer divertor project**[1] F. POLI, C. KESSEL, P. TITUS, H. ZHANG, PPPL, J. DOODY, R. GRANETZ, B. LIPSCHULTZ, PSFC-MIT — Disruptions in C-Mod lead to large forces on structures inside the vacuum vessel and can be grouped in two classes depending on whether they begin with a thermal quench (midplane disruptions) or not (VDEs). VDEs induce the largest currents in the lower divertor, which is being re-designed to be toroidally continuous and allow operation at high temperatures (<600C). Both types of disruptions have been simulated with TSC and the vector potential has been integrated in the ANSYS code (ANSYS® Multiphysics, Release 12.1) to calculate magnetic fields, induced currents in the structures of interest and forces. These forces are then used to calculate stress and deformation in the part. The TSC simulations are adjusted (thermal quench time, halo temperature and width, etc) to match the plasma characteristics as close as possible to experiments. The results of these simulations will be shown and the dependence of disruption time scales and characteristics on these plasma parameters and the new outer divertor structures will be discussed.

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