

Abstract Submitted  
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**1D Modeling of the Effects of High-Heat Flux ELMs on Partial Detachment in JET and ITER** ZHONGPING CHEN, PRASHANT VALANJU, BRENT COVELE, MIKE KOTSCHENREUTHER, SWADESH MAHAJAN, Univ of Texas, Austin, EVA HAVLICKOVA, FULVIO MILITELLO, Culham Centre for Fusion Energy — Edge localized modes (ELMs) are simulated using a 1D fluid model of the SOL plasma, coupled to a 1 1/2 D neutral model. The simulation is done by using a new code that adapts the SOLF1D code for the plasma and the NUT code for the neutral particles. We simulate ELMs on JET and ITER, starting with a realistic initial condition where the divertor plasma is initially in the partially detached regime. We emphasize heat as the dominant energy input from ELMs, and compare to the case where particles are the dominant energy source, which has been previously studied. We further study the effect of the divertor magnetic field angle with the target in ELMs when the plasma starts in the partially detached regime.

Brent Covele  
Univ of Texas, Austin

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