Abstract Submitted
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Study of the Heat Flux Induced by Pellet Triggered ELMs on the Divertor During Pacing Experiments on DIII-D[1] N. COMMAUX, L.R. BAYLOR, T.C. JERNIGAN, ORNL, T.H. OSBORNE, P.B. PARKS, GA, M.E. FENSTERMACHER, C.J. LASNIER, LLNL, R.A. MOYER, J.H. YU, UCSD — The purpose of the pellet ELM pacing on ITER is to reduce significantly the heat flux on the divertor thus increasing its lifespan. D_2 pellets injected into DIII-D H-mode ITER-like plasmas at 14 Hz have been shown to decrease the maximum heat flux on the divertor during each individual ELM. The relation between the pellet injection frequency, the ELM frequency and the heat load, which is critical to scale this technique to ITER, is studied in detail. The evolution of the heat footprint on the plasma facing components will be compared to a natural ELM case using fast framing IR camera data. One of the possible challenges of the pellet pacing technique is the possible toroidal asymmetries of the wall interaction of the first filament triggered by a pellet injection. This issue will be evaluated using vacuum field line tracing calculation and visible fast framing camera data. The implications of this study on the efficiency of pellet ELM pacing on ITER will be discussed.

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