

**Abstract Submitted for the 51st Annual Meeting  
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**Pellet ELM Triggering Results and Pacing Prospects for DIII-D,\*** L.R. Baylor, T.C. Jernigan, N. Commaux, *Oak Ridge National Laboratory*, T.E. Evans, P.B. Parks, *General Atomics*, M.E. Fenstermacher, *LLNL*, R.A. Moyer, J.H. Yu, *UCSD* – Small deuterium pellets have been injected with high speed and dropped with low speed into DIII-D H-mode plasmas from different locations. ELMs have been triggered by pellets injected from all locations, but not from vertically dropped low speed pellets. Experimental details of the pellet triggering of ELMs show that they are triggered before the injected fueling pellets reach the top of the H-mode pedestal, implying that penetration just inside the separatrix is sufficient to trigger ELMs. Results from 1-mm pellets dropped with a speed of 10 m/s into the edge plasma show a strong toroidal deflection in the scrape off layer with minimal penetration into the plasma and no clear triggering of ELMs. A planned upgrade of the pellet injector and new pellet trajectory for ELM pacing studies will be presented. Implications for controlled ELM triggering on ITER will be discussed.

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