

Abstract Submitted
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ELM Triggering with the New PPPL Lithium Granular Injector¹

D.K. MANSFIELD, A.L. ROQUEMORE, PPPL, R. MAINGI, ORNL, J.S. HU, Y. LIANG, Z. SUN, L. ZHANG, G. ZOU, ASIPP — A Li granular injector based on a high-speed rotating impeller has been developed at PPPL. The injector is capable of injecting spherical particles with diameters up to 1.3 mm and velocities of up to 100 m/s and has several possible applications. Primarily, the injector was developed as a tool to induce ELMs for ELM pacing experiments in plasmas operating in the H-mode. It can also operate as a real-time wall conditioning tool or as a method to resupply Li during a discharge to devices where Li is applied to the PFC's prior to a discharge. The injector is also capable of horizontally injecting small dust particles of any variety for plasma-dust transport studies. The first injector has recently been successfully installed on the EAST tokamak in Hefei, China where ELMs were induced with near 100% efficiency when 0.7mm spheres were injected at ~ 40 m/s into the midplane SOL. The injector will be described and supporting data for ELM triggering will be presented.

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