ELM Pacing with High Frequency Multi-species Impurity Granule Injection in NSTX-U H-Mode Discharges

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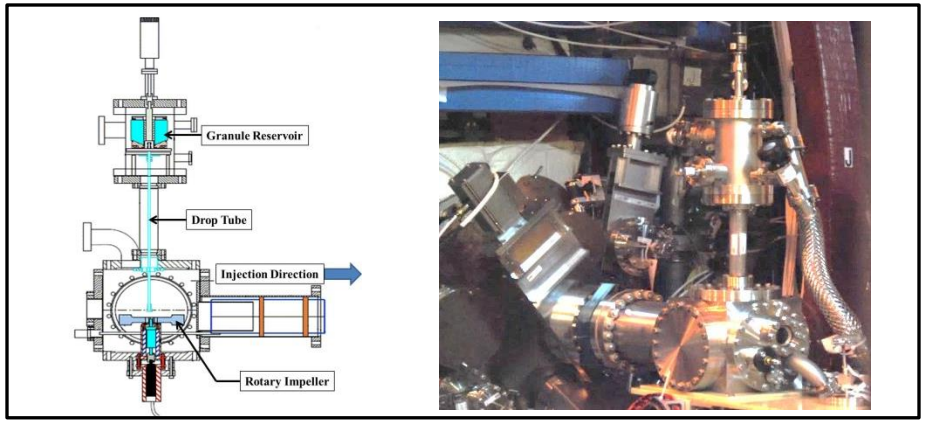
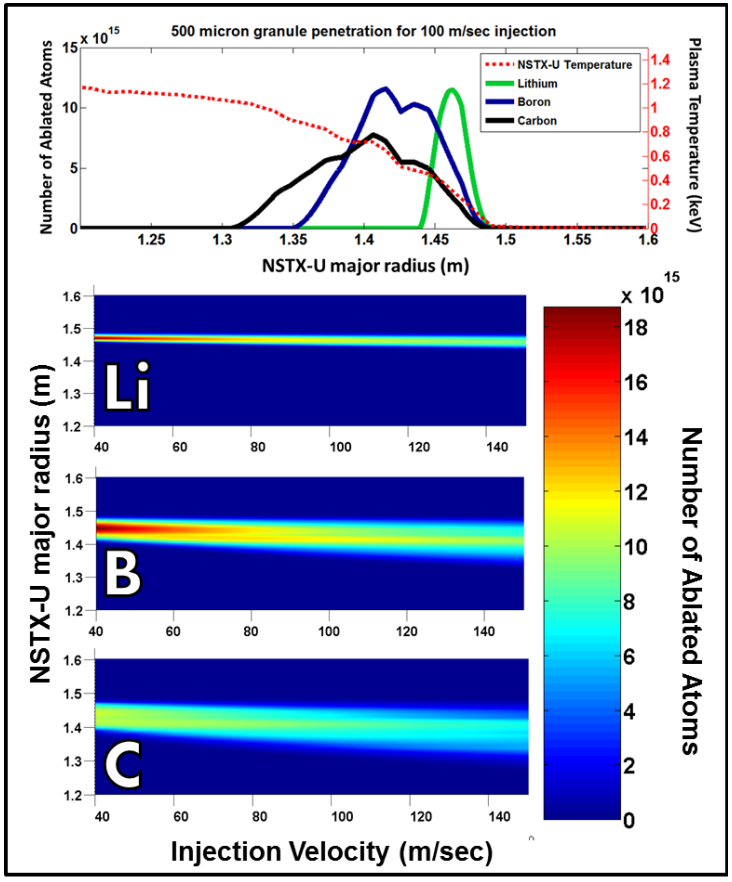


Granules travel from the reservoir down the drop tube and are driven into the discharge by the rotary impeller.

- **On NSTX-U an actuator has been installed to inject solid microgranules of Lithium, Boron Carbide(B_4C), and Carbon.**
- **Granule ablation generates an overdense flux tube, driving an MHD ballooning-type instability, triggering an ELM.**
- **Calibrating a neutral gas shielding ablation model using Li granule injection experiments at DIII-D we estimate the location of fractional mass deposition into NSTX-U discharges**
- **Future experiments will examine the moderation of the divertor peak heat flux resultant from the rapid pacing of ELMs in the ST geometry.**



The top panel displays the ablatant deposition for three 500 micron granules of different species injected at 100 m/sec. The bottom three panels illustrate the variation in mass deposition location for alternate injection velocities.