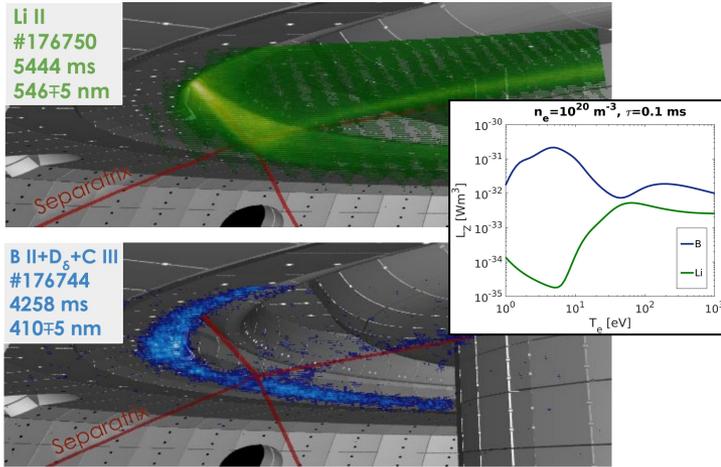


Enhanced radiative divertor power exhaust through injection of low-Z powders in DIII-D



Low Z powder-assisted divertor dissipation

- Enables use of alternative impurity species: B, Li (, Be, Si, BN, ...)
- Near-target neutral pressure increased by a factor up to 3, rapid reduction of the divertor Te and q_{\perp} for lithium and boron, respectively;
- Boron nitride reduces ELM activity

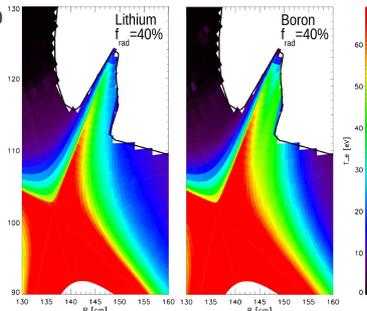
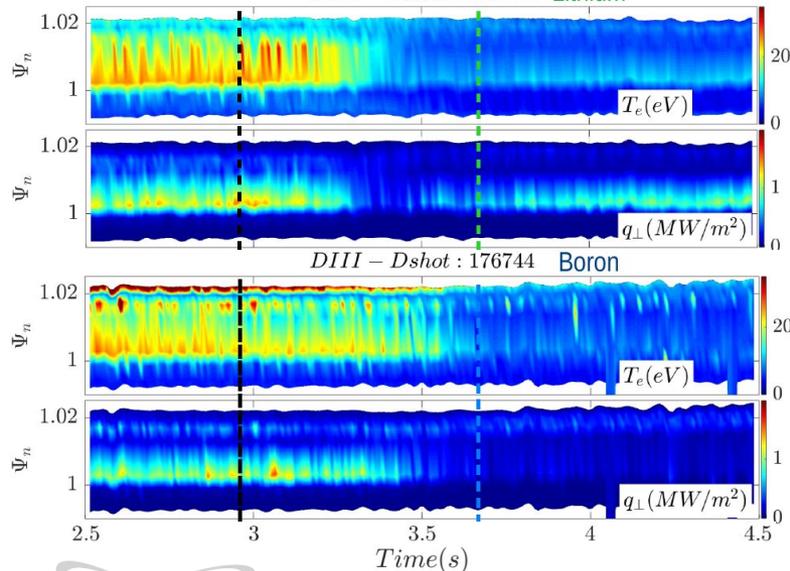
Core-edge capability

- Low Z powders create dissipative divertor & detachment while plasma energy confinement is maintained

Camera data and modeling

- Species-dependent dissipation in near SOL (Li) and attached to targets (B)

-> Synergistic use of low Z powders promising to optimize divertor dissipation and PMI



Authors & Acknowledgements

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This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Fusion Energy Sciences, using the DIII-D National Fusion Facility, a DOE Office of Science user facility, under Awards DE-AC02-09CH11466, DE-FC02-04ER54698, DE-AC52-07NA27344, DE-FG02-07ER54917, DE-SC0020357 and DE-AC05-00OR22725.

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