

Abstract Submitted
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The DIII-D Boundary/Plasma Materials Interaction Center (BPMIC): Progress and Prospects¹ D. THOMAS, GA — The boundary of a putative fusion reactor remains a key unresolved issue in the development of useful fusion energy. The BPMIC was established to develop validated boundary/PMI solutions for burning plasma devices by leveraging the existing DIII-D resources in well controlled, variable geometry edge plasmas and extensive boundary diagnostic set. During the first part of the 2015 campaign we have made significant progress in experiments designed to isolate specific known boundary and PMI physics issues and provide data for challenging existing analytical modeling tools such as the SOLPS suite and UEDGE. Topics include characterizing the relation between upstream and divertor parameters, the separate effects of closure and local magnetic geometry on detachment performance, leading edge tungsten erosion studies, and scaling relationships for the divertor heat flux width. This poster summarizes results from these experiments and will describe our high-level goals for the remainder of the 2015 campaign as well as for the 2016 campaign where we plan a campaign to study high-Z material migration and integration.

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