

**Abstract Submitted for the 55th Annual Meeting  
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Theory  Experiment

**Experimental Validation Plan for the Xolotl Plasma-Facing Component Simulator Using Tokamak Sample Exposures,\*** V.S. Chan, C.P.C. Wong *General Atomics*; A.G. McLean, *Lawrence Livermore National Laboratory*; G.N. Luo, *ASIPP*, China; B.D. Wirth, *Oak Ridge National Laboratory* – The Xolotl code under development by PSI-SciDAC will enhance predictive modeling capability of plasma-facing materials under burning plasma conditions. The availability and application of experimental data to compare to code-calculated observables are key requirements to validate the breadth and content of physics included in the model and ultimately gain confidence in its results. A dedicated effort has been in progress to collect and organize a) a database of relevant experiments and their publications as previously carried out at sample exposure facilities in US and Asian tokamaks (e.g., DIII-D DiMES, and EAST MAPES), b) diagnostic and surface analysis capabilities available at each device, and c) requirements for future experiments with code validation in mind. The content of this evolving database will serve as a significant resource for the plasma-material interaction (PMI) community.

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