

Abstract Submitted  
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**Platform for Interfacing Synthetic Diagnostics with Analysis of Fusion Experiments and Simulation Codes**<sup>1</sup> LEI SHI, WILLIAM TANG, ERNEST VALEO, BENJAMIN TOBIAS, STEPHANE ETHIER, WEIXING WANG, SEUNG-HOE KU, CHOONG-SEOCK CHANG, AHMED DIALLO, Princeton Plasma Physics Laboratory — Synthetic diagnostics have been widely used for interpreting experimental results and for validating numerical simulations. Since the individual synthetic diagnostic codes are usually developed independently, interfacing them with fusion experiments and simulation codes is a necessary but tedious task. We present here a new Python package containing useful modules for developing, testing, and benchmarking synthetic diagnostics with interfaces to data obtained from the NSTX and DIII-D experiments, and with simulation data from the GTS and XGC1 global particle-in-cell codes. A synthetic ECE imaging code and a synthetic reflectometry code (known as FWR2D) are also included as modules in this analysis infrastructure.

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