

## Preparation of Experimental Data from DIII-D for Testing Edge Physics Models\*

R.J. Groebner,<sup>1</sup> T.H. Osborne,<sup>1</sup> A.W. Leonard,<sup>1</sup> G.M. Staebler,<sup>1</sup> P.B. Snyder,<sup>1</sup>  
D.M. Thomas,<sup>1</sup> and C. Holland<sup>2</sup>

<sup>1</sup>General Atomics, P.O. Box 85608, San Diego, California 92186-5608, USA

<sup>2</sup>University of California-San Diego, La Jolla, California, USA

A database of DIII-D experimental data is being assembled for purposes of testing physics models of the plasma edge. One of the goals of this database is to provide data to test gyrokinetic transport models of the H-mode pedestal, several of which are now in development. Tests of pedestal transport models could best be made with discharges that featured a pedestal that evolved over a long period of time and which had no magnetohydrodynamic activity, such as ELMs. For these purposes, a set of discharges meeting these criteria has been identified in DIII-D and an appropriate data set is being assembled. These discharges have ELM-free periods of roughly 400 ms duration with the edge profiles evolving during the entire ELM-free phase. Time-dependent profiles for the following quantities are available and being assembled: electron density, electron temperature, ion temperature, toroidal rotation (carbon) and  $Z_{\text{eff}}$ . These profiles are fit with a smoothing function that provides a good representation of both the pedestal and core profiles. These profiles are used as input to the 1.5D TRANSP or ONETWO codes to compute the fast ion density, pressure and the total heating profile. The best way to obtain the particle source is still a subject of study. The magnetic shear will be obtained from a combination of modeling and measurements. Spatially resolved measurements of edge density fluctuations from the pedestal into the core are available and can be used as an additional test of pedestal models. The data assembled here will be stored in an MDSplus database with a format specified for the ITPA profile database. Initial results and the status of this study will be presented.

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**TOPIC:** SOL transport