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**Onion-Skin Method, OSM, and EIRENE (Neutral Hydrogen Code) Modeling of the DIII-D Edge**<sup>1</sup> S. LISGO, P.C. STANGEBY, J.D. ELDER, University of Toronto, J.G. WATKINS, Sandia National Laboratories, A.M. MAHDAVI, General Atomics, G.D. PORTER, Lawrence Livermore National Laboratory, D. REITER, University of Dusseldorf — An Onion-Skin Method (OSM) code and the EIRENE Monte-Carlo neutral hydrogen code were used to model the edge region of DIII-D for a single null, lower divertor, L-mode discharge. Comparison is made with experimental pressure gauge measurements in the lower outside pumping plenum. Geometrical details of the internal structure of a ‘fast ionization gauge’ were included in an EIRENE analysis in order to interpret the gauge reading. Often edge modeling fails to replicate the experimental hydrogenic signals in the private flux zone, PFZ, *e.g.*, pressure and  $D_\alpha$  intensity. One hypothesis is that the PFZ neutral signals are more intense than those corresponding to steady-state recycling conditions because the PFZ wall structure has been pre-loaded with hydrogen and this is being released during the shot. This will be tested by introducing an additional PFZ wall neutral hydrogen source into the modeling and adjusting its strength to match experiment.

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- Prefer Oral Session  
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