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**Simulation of Deuterium Pellet Ablation in Ignitor  
and Other Fusion Experiments\*** J. THOMAS, M.I.T., L. BAYLOR,

ORNL, P.B. PARKS, General Atomics, F. BOMBARDA, ENEA, Italy  
— An advanced high speed ( $\leq 4$  km/sec), two-stage pellet injector is being developed by ENEA of Italy, in collaboration with Oak Ridge National Laboratory, for fueling and density profile control in the Ignitor experiment. Using the Neutral Gas Shielding (NGS) ablation model<sup>1</sup>, an analysis of deuterium pellet penetration in Ignitor was conducted for various pellet sizes and speeds in order to assess the range of operational scenarios in which pellets can reach significant penetration. Until Ignitor is completed, the injector could be tested on a currently operating device to test its capabilities and usefulness in different plasma regimes. In order to match the versatility of such an injector to each experiment, the NGS model was used to simulate penetration data for four candidate machines (JET, DIII-D, Alcator C-Mod, and FTU), assuming a standard low field side injection at midplane, while varying the most relevant plasma parameters.

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<sup>1</sup>P.B. Parks, R.J. Turnbull, *Phys. Fluids* **21**, 1735 (1978)

Prefer Oral Session  
 Prefer Poster Session

Francesca Bombarda  
Bombarda@psfc.mit.edu  
ENEA, Italy

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