

Abstract Submitted  
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**Analysis of the Ignitor Scrape-Off Layer\*** F. SUBBA, R. ZANINO, Politecnico di Torino, Italy, F. BOMBARDA, G. MADDALUNO, G. RAMOGIDA, ENEA — Ignitor has adopted an “extended limiter” configuration to fill all the available volume with the plasma, and to keep the peak power on the wall to less than 2 MW/m<sup>2</sup> for the reference ignition scenario. To achieve this challenging result, the FW shape follows closely the plasma column and needs to be built with strict tolerances. Accurate predictions of the plasma conditions near the edge were important for the design process, but the FWL geometry presents unique and partially unexplored features that have prompted the development of new modeling tools[1] for the SOL of Ignitor. The new analysis now includes the effect of neutral atoms, obtained by coupling the plasma fluid code ASPOEL with the neutral solver EIRENE. Preliminary results confirm that a large fraction of the recycling neutrals is ionized in the SOL itself, before entering the main plasma. As a consequence, the plasma temperature in the SOL is reduced, limiting wall sputtering. Another configuration with  $B_T \cong 13$  T,  $I_p \cong 10$  MA and double X-points just outside the FW is analyzed, to facilitate access to the H-regime. In this configuration, the incidence angle of the magnetic field onto the wall grows rapidly near the tangency point, which challenges the need to keep the peak power at a low level. [1]F. Subba, et al., *J. Nucl. Mater.* **363-365**, 693 (2007). \*Sponsored by ENEA.

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