

Abstract Submitted  
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**Experimental test of the mass dependence of the heuristic drift model**<sup>1</sup> M.A. MAKOWSKI, LLNL, T.H. OSBORNE, A.W. LEONARD, GA, A. BORTOLON, R. NAZIKIAN, PPPL — An empirical scaling for the heat flux scrape-off-layer (SOL) width has been developed [1], but the physics setting the heat flux width has yet to be established. However, a heuristic model [2] for the width scaling has been developed which is consistent with currently available data. Recent experiments in helium discharges and in which the pedestal and SOL had > 75% impurity (He, Li, C, N, or Ne) content, provide a means of testing the mass scaling of the heuristic model. Preliminary results indicate either no or a weakly negative scaling of the measured heat flux width with mass. This result lies between the predicted approximate  $\sqrt{\bar{A}/\bar{Z}}$  (electron drift dominated) and  $\sqrt{\bar{A}/\bar{Z}^3}$  (ion drift dominated) dependencies predicted by the model, indicating a complicated interplay between the electrons and multiple ion species present in the SOL. These and other results related to the heuristic model will be presented.

[1] T. Eich, et al., Phys. Rev. Lett. 107 (2011) 215001.

[2] R.J. Goldston, Nuc. Fusion 52 (2012) 013009.

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