

Abstract Submitted
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Design and Implementation of a Compact Lithium Evaporator to Minimize Edge Neutral Drag on the HBT-EP Tokamak¹ D.A. MAURER, D. SHIRAKI, J.M. HANSON, R. JAMES, M.E. MAUEL, G.A. NAVRATIL, T.S. PEDERSEN, Columbia University — A candidate for the dissipation mechanism responsible for rotational stabilization of the resistive wall mode (RWM) on the HBT-EP tokamak is neutral damping via charge exchange reactions with cold Deuterium neutrals in the edge plasma. Lithium has been used successfully on the CDX-U experiment to substantially reduce recycling as a plasma fueling mechanism [1]. To study charge exchange drag and its effect on the RWM we have designed and plan to implement a small, compact Lithium evaporator that will getter neutral recycled Deuterium atoms to minimize the edge neutral population and as a result reduce charge exchange reactions. Evaporator design details, bench measurements of Li effusion rate performance, and plans for implementation of the evaporator during daily tokamak operation will be outlined.

[1] R. Majeski, *et al.*, Phys. Rev. Lett. 97, 7, 075002, 2006.

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