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Improved Confinement In The Columbia Non-Neutral Torus¹ PAUL W. BRENNER, Columbia University, T. SUNN PEDERSEN, M. HAHN, J. BERKERY, Q.R. MARKSTEINER, Columbia University — Recently improvements in the Columbia Non-neutral Torus (CNT) have resulted in an order of magnitude increase to the confinement time. Confinement is primarily limited by electron neutral collisions and transport resulting from insulating probes inserted into the plasma. An evaporated lithium pump is being installed to perform experiments at decreased base pressure. Also a conducting boundary conforming to the last closed magnetic flux surface has been installed both as an external diagnostic and to minimize potential variation along magnetic surfaces. Combined with a retractable emitter the conducting boundary diagnostic allows for rod-less confinement measurements. Potentials can also be applied to segments of the conducting boundary to influence the plasma. A summary of low pressure and rod-less results will be presented with discussion of the effect of biasing individual sectors of the boundary.

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