

Abstract Submitted
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Understanding and improving confinement in CNT¹ PAUL BRENNER, Columbia University, THOMAS PEDERSEN, XABIER SARASOLA, BENOIT DURAND DE GEVIGNEY, PETER TRAVERSO — Confinement studies in the Columbia Non-neutral Torus (CNT) are providing new insights into the physics of pure electron plasmas confined on magnetic surfaces. The confinement of pure electron plasmas has now been measured in the absence of internal objects. These transient plasmas exhibit confinement times that are shorter than expected and have a strong dependence on neutral pressure. Plasmas created by electron emission in one direction have been compared to those created by emission in two directions. The confinement is significantly longer when emitting in only one direction, suggesting that a two-stream instability is present and affects the radial transport rate. Progress on verifying the existence of a two-stream instability will be presented. Experimental results from previously unexplored stellarator configurations, with low shear and large islands will also be shown.

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