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Overview of results from the Columbia Non-Neutral Torus[1] T. SUNN PEDERSEN, Columbia University, JOHN W. BERKERY, A.H. BOOZER, Q.R. MARKSTEINER, M. HAHN, P.W. BRENNER, B. DURAND DE GEVIGNEY, X. SARASOLA MARTIN — The Columbia Non-neutral Torus (CNT) is a compact, two-period stellarator created from four circular coils, dedicated to the study of non-neutral and electron-positron plasmas on magnetic surfaces. CNT has been in operation since 2004. Research is currently focused on understanding and improving confinement, investigating the physics of ion-related instabilities, and determining the causes of large confinement jumps observed. One near term goal is to achieve operation and diagnosis of plasmas without internal objects. This poster will give an overview of recent CNT results, including evidence of breaking of parallel force balance for the electron fluid, confinement times up to 190 msec, and large and sudden confinement jumps. We will discuss future plans for CNT, in particular plans for creation and studies of electron-positron plasmas.

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