

Abstract Submitted  
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**Reconnection experiments with flux ropes near 3D magnetic nulls**<sup>1</sup> A. VRUBLEVSKIS, J. EGEDAL, A. LE, MIT — Depending on the topology and geometry of the magnetic field, a rich collection of magnetic reconnection scenarios is possible in 3D including reconnection at magnetic nulls. Nulls have been reported in the solar corona [1] and in Earth's magnetosphere [2], yet there are a limited number of laboratory observations. At the Versatile Toroidal Facility (VTF) we have implemented a new magnetic geometry with a pair of 3D null points in the background toroidal field. In the nominal symmetric configuration a field line connects the nulls. We form a flux rope along this field line and observe the rope rapidly restructuring and rewiring as the nulls develop. A suit of diagnostics will be deployed and results presented for the dynamics of the geometry.

[1] Fletcher et al., *Astrophys. J.* 554, 451(2001).

[2] Xiao et al., *Nat. Phys.* 2, 478 (2006).

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J. Egedal  
MIT

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