Abstract Submitted
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Reconnection experiments with 3D magnetic nulls in different topologies[1] A. VRUBLEVSKIS, J. EGEDAL, A. LE, MIT — Magnetic reconnection has been predominantly investigated in two dimensions. However, 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. 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. We form a flux rope along the background field and observe it to rapidly restructure and rewire as the nulls develop. We can adjust the topology of the configuration from one where a field line connects the nulls to one where the nulls are no longer linked. A suit of diagnostics will be deployed and results presented for how the topology affects the dynamics of the flux rope.

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Jan Egedal
MIT

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