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**Reconnection experiments including 3D magnetic nulls**[1] A. LE, J. EGEDAL, A. VRUBLEVSKIS, MIT, PSFC, Camrbridge, MA — A rich collection of magnetic reconnection scenarios is possible in three dimensions depending on the topological and geometric structure of the magnetic field [1]. In recent experiments at the Versatile Toroidal Facility (VTF) three-dimensional effects were essential even in nearly axisymmetric plasmas with a non-vanishing toroidal field [2]. To explore reconnection in 3D geometries including magnetic null points, a new adjustable set of coils will be installed in the vacuum chamber of VTF. The range of vacuum magnetic field topologies attainable in VTF will be explored numerically. Plasma reconnection experiments will be run in these configurations, and measurements will be presented if available.

[1] CE Parnell, et al., (2009) "Three-Dimensional Magnetic Reconnection, in Magnetic Coupling between the Interior and the Atmosphere of the Sun," eds. S.S. Hasan and R.J. Rutten, Springer-Verlag, Heidelberg, Berlin.
[2] Katz, N. et al., (2010) Phys. Rev. Lett. 104, 255004.

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Jan Egedal
MIT

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