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Reconnection experiments with 3D magnetic nulls[1] A. VRUBLEVSKIS, J. EGEDAL, A. LE, P. MONTAG, MIT, PSFC — Three-dimensional effects have been crucial in explaining experiments at the Versatile Toroidal Facility (VTF) even in nominal axisymmetric plasmas with a non-vanishing toroidal field [1]. In general, depending on the topological and geometric structure of the magnetic field, a rich collection of magnetic reconnection scenarios is possible in three dimensions. The new adjustable set of coils in VTF allows exploring reconnection in 2D and 3D geometries including configurations with magnetic null points. We present results of a numerical and experimental investigation of magnetic field topologies attainable in VTF.

[1] Katz, N. et al., (2010) Phys. Rev. Lett. 104, 255004.

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