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Observations of formation and dynamics of plasma filaments in VTF[1] A. VRUBLEVSKIS, J. EGEDAL, A. LE, MIT, PSFC, Camrbridge, MA — Plasma filaments, or "blobs", are propagating structures of increased plasma density relative to the background plasma. Blob dynamics are of importance in a variety of environments including fusion experiments and space. Previous investigations in the Versatile Toroidal Facility (VTF) studied the propagation of a single filament created using RF power [1]. Here we present observations made in a closed magnetic configuration including an X-line. We observed periodic density fluctuations along the plasma edge and filaments detaching and propagating away. Multiple probe arrays at different toroidal locations allowed us to investigate the 3D extent and evolution of the filaments focusing on the plasma edge.

[1] N. Katz et al., Phys. Rev. Lett. 101, 015003 (2008)

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