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Buoyant magnetic plumes in solar prominences

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Abstract. Observations of solar prominences reveal a complex, dynamic flow field within them. The flow field within quiescent prominences is characterized by long “threads” and dark “bubbles” that fall and rise (respectively) in a thin sheet. The flow field in active prominences display more helical motions that travel along the axis of the prominence. We explore the possible dynamics of both of these with the aid of 2.5D MHD simulations. Our model, compressible plasma possesses density and temperature gradients and resides in magnetic field configurations that mimic those of a solar prominence. We present results of various configurations and discuss the nonlinear behavior of the resulting dynamics.