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Jacob Bernstein and **Lu Wang***, 1200 E California Blvd, Pasadena, CA 91125. *Relative expander entropy in the presence of a two-sided obstacle.*

We study a notion of relative entropy motivated by self-expanders of mean curvature flow. In particular, we obtain the existence of this quantity for arbitrary hypersurfaces trapped between two disjoint self-expanders asymptotic to the same cone. This allows us to begin to develop the variational theory for the relative entropy functional for the associated obstacle problem. We also obtain a version of the forward monotonicity formula for mean curvature flow proposed by Ilmanen. (Received August 30, 2019)