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D. C. Antonopoulou, Department of Mathematics, University of Chester, **P. W. Bates*** (bates@math.msu.edu), Department of Mathematics, Michigan State University, East Lansing, MI 48824, **D. Blomker**, Institute for Mathematics, Universitat Augsburg, and **G. D. Karali**, Department of Mathematics, University of Crete. *Motion of a droplet for the stochastic mass-conserving Allen-Cahn equation.*

We use the stochastic mass-conserving Allen-Cahn equation to study the motion of a small almost semicircular droplet attached to the smooth boundary of a domain in \mathbb{R}^2 and subject to space-time additive noise. We apply Itô calculus to derive the stochastic dynamics of the center of the droplet by utilizing the approximately invariant manifold introduced by Alikakos, Chen and Fusco for the deterministic problem. Under the assumption of a sufficiently small noise strength, we establish stochastic stability of a neighborhood of the manifold of boundary droplet states in the L^2 - and H^1 -norms, which means that with overwhelming probability the solution stays close to the manifold for very long time-scales. (Received February 15, 2016)