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Ao Sun* (aosun@mit.edu), Department of Mathematics, Simons Building (Building 2), 2-390A, 77 Massachusetts Avenue, Cambridge, MA 02139. *Generic Multiplicity One Singularities of Mean Curvature Flow of Surfaces.*

One of the central topics in mean curvature flow is understanding the singularities. In 1995, Ilmanen conjectured that the first singularity appeared in a smooth mean curvature flow of surfaces must have multiplicity one. In this project, we partially address this conjecture by showing that the high multiplicity singularities are not generic. The main idea is generalizing the quantity entropy used by Colding-Minicozzi to introduce the generic mean curvature flow. In particular, if one high multiplicity singularity is modelled by a closed self-shrinker, we have precise construction to perturb the flow to avoid this singularity model. (Received January 25, 2019)