Stability of multiphase mean curvature flow beyond circular topology changes

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The evolution of a network of interfaces by mean curvature flow features the occurrence of topology changes and geometric singularities. As a consequence, classical solution concepts for mean curvature flow are in general limited to a finite time horizon. At the same time, the evolution beyond topology changes can be described only in the framework of weak solution concepts (e.g., Brakke solutions), whose uniqueness may fail. Following the relative energy approach, we prove a quantitative stability estimate holding up to the singular time at which a circular closed curve shrinks to a point. This implies a weak-strong uniqueness principle for weak varifold-BV solutions to planar multiphase mean curvature flow beyond circular topology changes. We expect our method to have further applications to other types of shrinkers. This talk is based on a joint work with Julian Fischer, Sebastian Hensel and Maximilian Moser.