

Ancient solutions in Lagrangian mean curvature flow

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Abstract. Ancient solutions of Lagrangian mean curvature flow in \mathbb{C}^n naturally arise as Type II blow-ups. In this extended note we give structural and classification results for such ancient solutions in terms of their blow-down and, motivated by the Thomas–Yau Conjecture, focus on the almost calibrated case. In particular, we classify Type II blow-ups of almost calibrated Lagrangian mean curvature flow when the blow-down is a pair of transverse planes or, when $n = 2$, a multiplicity two plane. We also show that the Harvey–Lawson Clifford torus cone in \mathbb{C}^3 cannot arise as the blow-down of an almost calibrated Type II blow-up.

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