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Crater Morphology and Bubble Entrainment during Drop Impact on a Liquid Pool QIANG DENG, A.V. ANILKUMAR, T.G. WANG, Department of Mechanical Engineering, Vanderbilt University — We have examined in detail the morphology of the impact crater formed during the impact of a liquid drop on a liquid pool for a range of We, Fr and viscosities. In a narrow impact regime, air bubbles are entrained into the pool as a consequence of capillary wave focusing at the crater tip. At the same time, a high speed thin jet is ejected upwards, and the critical crater cone angle is observed. At other times, the bubble pinch-off process can be averted due to the dissipation of the capillary waves, and the lack of wave focusing. All of the aspects can be explained by examining the crater morphology. The results will be presented at this talk.

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