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Unstable 3D phenomena: Dynamic interactions of a cavitation bubble and Richtmyer-Meshkov unstable divot WILLIAM BUTTLER, DRU RENNER, CHRIS MORRIS, RUBEN MANZANARES, JOEL HEIDEMANN, RYAN KALAS, ANNA LLOBET, JOHN MARTINEZ, JEREMY PAYTON, ANDY SAUNDERS, DEREK SCHMIDT, AMY TAINTER, SAMUEL VINCENT, WENDY VOGAN-MCNEIL, Los Alamos National Laboratory — We radiographically explore a shock-induced Sn cavitation bubble as it interacts with a transverse cavitation wave caused by a Richtmyer-Meshkov unstable spike from a divot. The cavitation bubble forms as two shockwaves collide under the divot, as the shockwaves release to ambient pressure at the surface. The divot inverts and unstably grows, as expected and predicted, but the release waves that form the cavitation bubble reflect from and constrain the cavitation wave growth. As the cavitation wave grows it pierces the cavitation bubble, deflating it onto the unstable transverse cavitation wave.

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