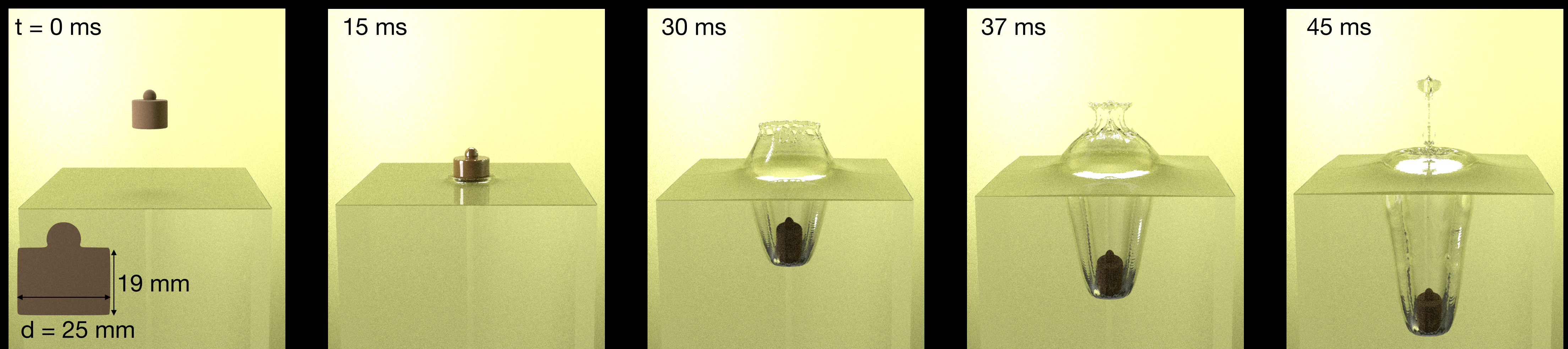# Computational simulation of water entry of solids -
Effect of nose curvature on splashing dynamics and cavity closure
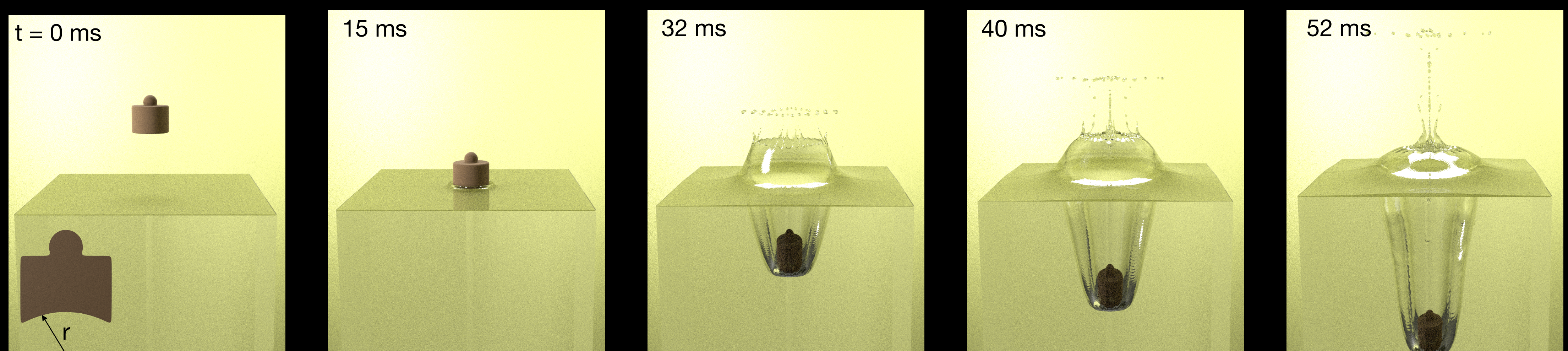
Kartik Gupta[1], Mehdi Raessi[1*] and Jesse Belden[2]
1 University of Massachusetts Dartmouth
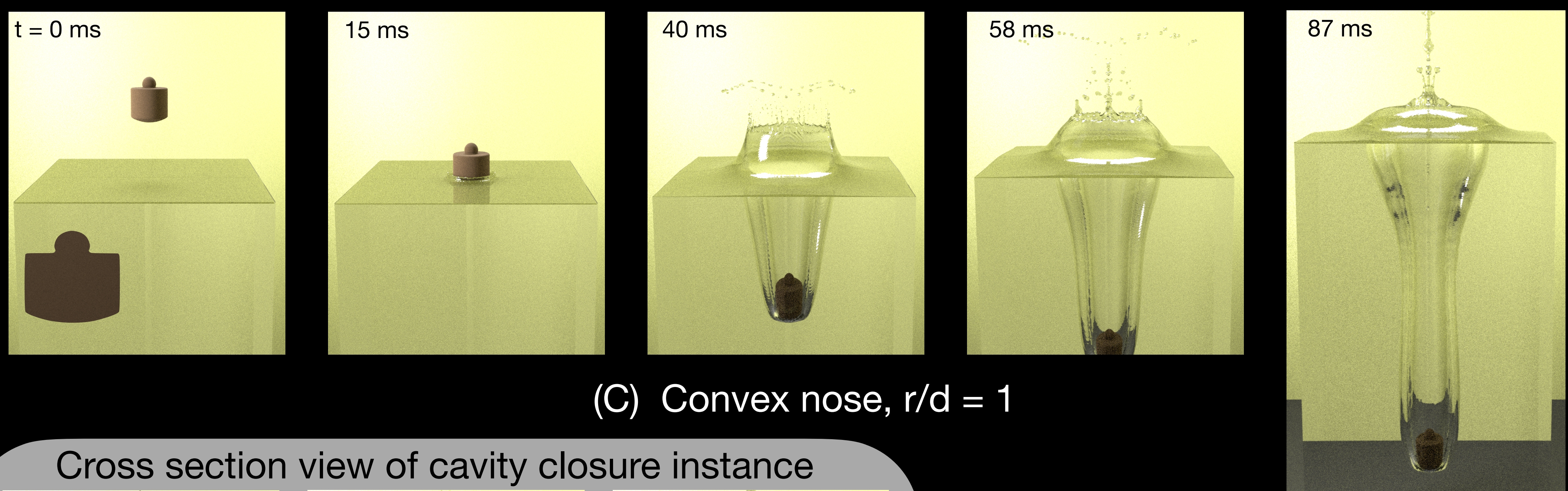2 Naval Undersea Warfare Center
*mraessi@umassd.edu

(A) Flat nose, r/d = 0
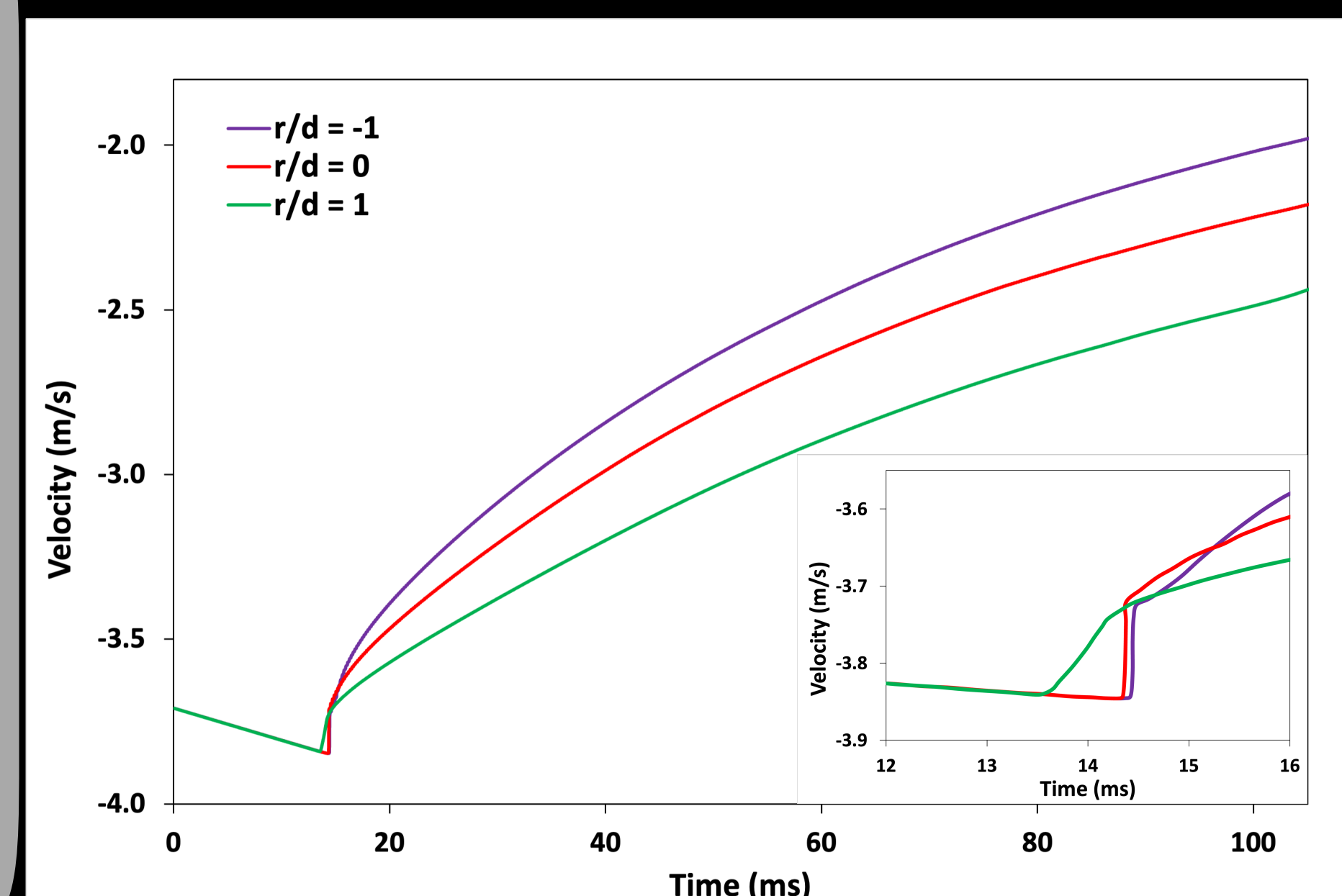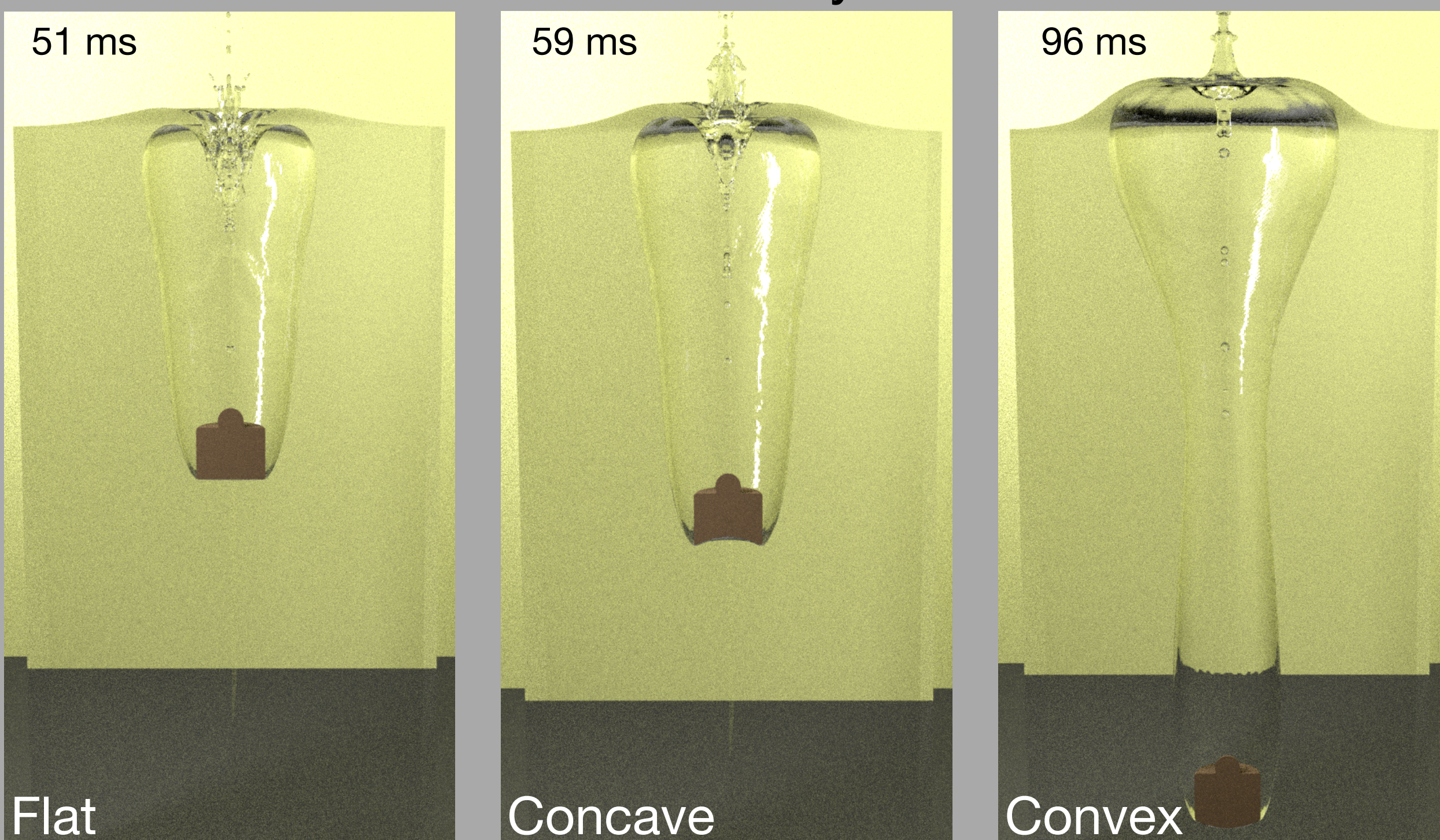

(B) Concave nose, r/d = -1

(C) Convex nose, r/d = 1

Cross section view of cavity closure instance

Computational simulation of water entry with solid velocity of V = 3.85 (m/s), corresponding to Weber number We = (ρ_{water} V^2 d)/σ = 5140. Water tank width = 15.4 (cm) and depth = 28.5 (cm).