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The effect of spreading on vertically directed jet impinging a sharp density interface[1] ALLEN BEAUNE[2], PETER FRIEDMAN, University of Massachusetts Dartmouth — A large existing body of literature categorizes the flow behavior of negatively buoyant jets and fountains and characterizes their flow structure into distinct regimes and their maximum penetration depth predominately as a function of the Richardson number. In the present study, similar flow regimes have been identified and determined to be a function of Richardson number based on jet properties at the interface. This "interface Richardson number" increases as the jet is separated from the interface based on a jet spreading factor. The study uses immiscible fluids (silicone oil and a glycerin water mixture) with matched indices of refraction.

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