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The immersed interface method for simulating two-fluid flows[1]
SHENG XU, MIGUEL UH, Southern Methodist University — In this talk, we present a second-order accurate implementation of the immersed interface method for computing a two-fluid flow. In the method, jump conditions in the flow fields caused by the effect of the two-fluid interface and the discontinuous fluid properties are incorporated into a numerical scheme on a Cartesian grid. We discuss how to derive and use these jump conditions to achieve second-order accuracy. We test the accuracy, efficiency and stability of our implementation on some canonical two-fluid flows.

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