

Abstract Submitted
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Using a Korteweg-type model for modeling surface tension and its applications¹ WANGYI LIU, Lawrence Berkeley Laboratory, JOHN BARNARD, Lawrence Livermore National Laboratory, ALICE KONIGES, Lawrence Berkeley Laboratory, DAVE EDER, ALEX FRIEDMAN, AARON FISHER, NATHAN MASTERS, Lawrence Livermore National Laboratory — The Korteweg model is a relatively old but seldom-investigated model for numerically surface tension. We present some advanced applications of this model: wave propagation and thin-film flow. The results will be benchmarked against their analytic solution. In addition, we will investigate the performance of the model in full-scale expanding flow that breaks into droplets as the material enters the two-phase. The conjunction of this method with ALE-AMR will also be presented. Work performed under the auspices of the U.S. Department of Energy un-contract DE-AC52-07NA27344 at LLNL, and University of California DE-AC02-05CH11231 at LBNL.

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