Abstract Submitted
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Interface capturing using a compressive advection method and a compositional modelling approach: Applications[1] DIMITRIOS PAVLIDIS, ZHIHUA XIE, JAMES PERCIVAL, JEFFERSON GOMES, CHRISTOPHER PAIN, OMAR MATAR, Imperial College London — Progress on a consistent approach for interface-capturing in which each component represents a different phase/fluid is described. The aim is to develop a general multiphase modelling approach based on fully-unstructured meshes that can exploit the latest mesh adaptivity methods, and in which each fluid phase may have a number of components. The method is based on the P1DG-P2 finite element pair, in which the velocity has a linear discontinuous variation and the pressure has a quadratic continuous variation. The method is compared against experimental results for a collapsing water column test case and a convergence study is performed. The method is then used to simulate horizontal slug flow.

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