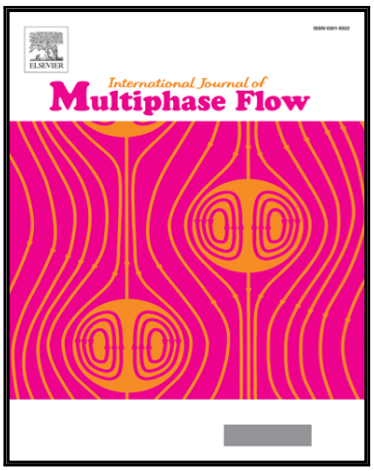

A Consistent, Scalable Model for Eulerian Spray Modeling

J.M. García-Oliver, J.M. Pastor, A. Pandal, E. Baldwin, D.P. Schmidt

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Highlights

- A new Σ-Y Eulerian model construction has been built around an IMEX-RK3 construction
- A density-based algorithm is used to resolve inconsistencies of segregated solutions
- The new model and the existing one have been compared on diesel sprays simulations
- New model improves the accuracy, stability and parallel efficiency of simulations
- New Runge-Kutta construction has long-term value for its potential