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A Consistent, Scalable Model for Eulerian Spray Modeling

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Highlights

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- 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

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