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A pressure based method for vaporizing compressible two-phase flows with interface capturing approach

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Highlights

- A pressure-based method dedicated to the DNS of turbulent two-phase flows is presented.
- The Coupled Level Set/VOF method is used to capture the interface and ensure mass conservation.
- A reference solution for an oscillating water column configuration has been presented and used as a validation case for the numerical method.
- The method is able to handle turbulent atomization processes such as breakup and coalescence, as well as vaporization.
- Even in the vaporizing turbulent case, mass conservation is obtained, showing the potential and the robustness of the numerical method.

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