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A gradient-based framework for maximizing mixing in binary fluids

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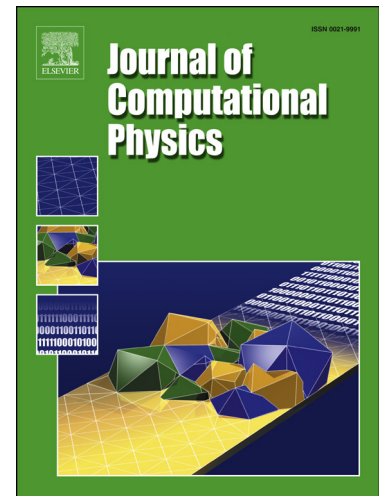
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Highlights

- Successfully embedded penalized governing equations into an optimisation procedure.
- Explicit derivation of gradient-expressions for the penalisation mask.
- Benchmarks of the optimisation platform with special emphasis on convergence behavior.
- Achieved significant gain in mixing efficiency in the bounds of control parameters.

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