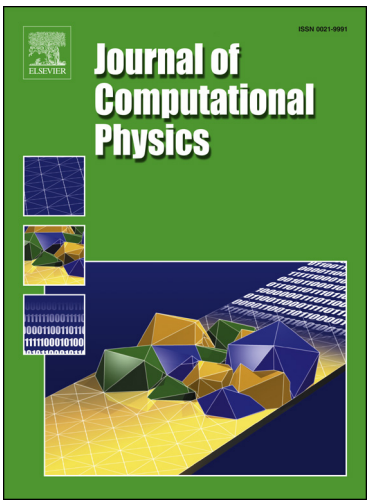
Accepted Manuscript



A gradient-based framework for maximizing mixing in binary fluids

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PII: S0021-9991(18)30255-9
DOI: https://doi.org/10.1016/j.jcp.2018.04.030
Reference: YJCPH 7970

To appear in: *Journal of Computational Physics*

Received date: 24 January 2018
Revised date: 5 April 2018
Accepted date: 16 April 2018

Please cite this article in press as: M.F. Eggl, P.J. Schmid, A gradient-based framework for maximizing mixing in binary fluids, *J. Comput. Phys.* (2018), https://doi.org/10.1016/j.jcp.2018.04.030

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.