

## Multiple-relaxation-time lattice-Boltzmann model for immiscible fluids

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A lattice-Boltzmann model based on field mediators with a splitted collision operator [1,2] and on the idea of spectral decomposition proposed by D'Humières [3,4] is used to simulate the behavior of immiscible fluids. Considering two immiscible fluids  $r$  and  $b$ , the decoupled collision operator acts on the *moment space* in order to have mutal (e.g.  $r$ - $r$ ) and cross ( $r$ - $b$ ) collisions independently, weighted by the local mass fraction. The concept of field mediators is applied to simulate long-range interaction, allowing *local* rules in the separation step. Theoretical predictions for interfacial tension and interface thickness are compared with numerical experiments.

### References

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