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Multi-stage splitting integrators for sampling with modified Hamiltonian Monte Carlo methods

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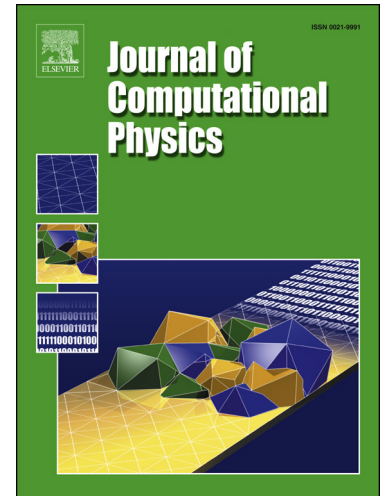
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Highlights

- We introduce new multi-stage integrators for enhanced sampling with modified Hamiltonian Monte Carlo methods.
- The integrators are obtained from the minimization of the (expected) modified energy error introduced by numerical integration.
- We propose computationally efficient expressions for modified Hamiltonians of order 4 and 6 for the multi-stage splitting integrators.
- An outstanding improvement over Verlet observed for problems in which the potential function is (approximately) quadratic.

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