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High-order staggered schemes for compressible hydrodynamics. Weak consistency and numerical validation

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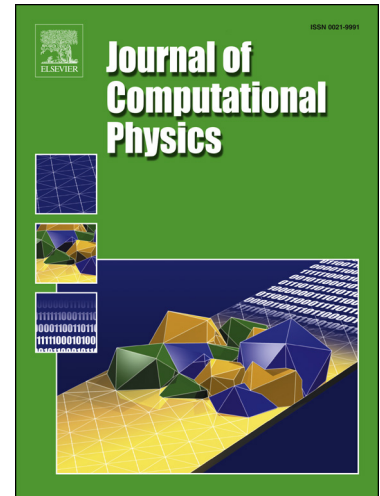
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Highlights

- High-order accuracy in space is done via Taylor series, whereas high-order accuracy in time is reached through Runge–Kutta and directional splitting methods.
- Weak consistency of staggered schemes is proved for barotropic hydrodynamics,
- Weak consistency of staggered schemes is proved for compressible hydrodynamics using an *a posteriori* internal energy corrector,
- Wide variety of numerical test-cases illustrate the interest, the robustness and the convergence of the schemes.

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