

Abstract Submitted
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High-order local time stepping for GR-hydrodynamics simulations WILLIAM THROWE, Cornell University — Simulations involving a large range of length or time scales are inefficient due to the number of evaluations of evolution equations being set by the most stringent scales. Using a local time stepping scheme, where different degrees of freedom are evaluated at different times, can resolve this issue, but such schemes are generally low-order or fail to preserve conservation laws. We present a conservative, high-order local time stepping scheme applied to a discontinuous Galerkin method suitable for General Relativity and hydrodynamics simulations.

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