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					DUPLICATES	1073
	authors	<ul style="list-style-type: none">Olindo ZanottiMichael DumbserArturo HidalgoDinshaw S. Balsara	authors	<ul style="list-style-type: none">Olindo ZanottiMichael DumbserArturo HidalgoDinshaw Balsara		
	title	An ADER-WENO Finite Volume AMR code for Astrophysics	title	An ADER-WENO Finite Volume AMR code for Astrophysics		
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	id	id-8587170392853109231	id	id-1015905907374943763		
	abstract		abstract	A high order one-step ADER-WENO finite volume scheme with Adaptive Mesh Refinement (AMR) in multiple space dimensions is presented. A high order one-step time discretization is achieved using a local space-time discontinuous Galerkin predictor method, while a high order spatial accuracy is obtained through a WENO reconstruction. Thanks to the one-step nature of the underlying scheme, the resulting algorithm can be efficiently imported within an AMR framework on space-time adaptive meshes. We provide convincing evidence that the presented high order AMR scheme behaves better than traditional second order AMR methods. Tests are shown of the new scheme for nonlinear systems of hyperbolic conservation laws, including the classical Euler equations and the equations of ideal magnetohydrodynamics. The proposed scheme is likely to become a useful tool in several astrophysical scenarios.		
	versions		versions			