

# A VERSATILE, ADAPTIVE TOOLKIT FOR ASTROPHYSICAL APPLICATIONS.

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I will present the status of the MPI-AMRVAC software, a dimension-independent grid-adaptive framework for gas and plasma dynamical applications. Using a finite-volume representation, the discretization strategies target shock-dominated evolutions, with shock-capturing schemes as recurring ingredient to model regimes spanning gas dynamical, Newtonian flow, up to relativistic plasma jets. I will highlight in particular the block-based adaptive mesh refinement strategy, and the adaptivity criteria frequently employed in actual astrophysical applications.