

Abstract Submitted
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Spectral Methods in General Relativistic MHD Simulations

DAVID GARRISON, University of Houston Clear Lake — In this talk I discuss the use of spectral methods in improving the accuracy of a General Relativistic Magnetohydrodynamic (GRMHD) computer code. I introduce SpecCosmo, a GRMHD code developed as a Cactus arrangement at UHCL, and show simulation results using both Fourier spectral methods and finite differencing. This work demonstrates the use of spectral methods with the FFTW 3.3 Fast Fourier Transform package integrated with the Cactus Framework to perform spectral differencing using MPI.

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