Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Error Reduction in Numerical Relativity Calculations Using Local Coordinates WILLIAM DARIAN BOGGS, University of Maryland, College Park, JOHN G. BAKER, JAMES R. VAN METER, JOAN CENTRELLA, NASA GSFC, NASA GODDARD NUMERICAL RELATIVITY TEAM — In simulations of binary black hole systems, errors in the local calculations are determined in part by the coordinate system in which they are performed. Calculating the field quantities in coordinate systems matched to the local dynamics of each portion of the simulation grid promises to reduce this local error. I will talk about my implementation of this technique in our numerical relativity code, HAHNDOL, and its potential to improve the accuracy and efficiency of our simulations and allow us to perform more ambitious simulations.

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Date submitted: 23 Oct 2009 Electronic form version 1.4