

APR09-2009-000194

Abstract for an Invited Paper
for the APR09 Meeting of
the American Physical Society

Numerical Relativity: A critical new tool for astrophysics

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The past few years have seen a renaissance in Numerical Relativity that has transformed the field into a critical tool for studying astrophysical systems. Researchers around the world have made many important new discoveries in the evolution of black-hole systems. In this talk I will describe many of the results that a few years ago seemed impossible to obtain, including unexpectedly large recoil kicks, modeling of the remnant masses and spins, post-Newtonian / NR comparisons, highly-accurate long-term evolutions, explorations of mathematical structure of remnant spacetimes, and N-black-hole merger scenarios.