



General Relativity and Quantum Cosmology

Numerical simulations of black-hole binaries and gravitational wave emission

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We review recent progress in numerical relativity simulations of black-hole (BH) spacetimes. Following a brief summary of the methods employed in the modeling, we summarize the key results in three major areas of BH physics: (i) BHs as sources of gravitational waves (GWs), (ii) astrophysical systems involving BHs, and (iii) BHs in high-energy physics. We conclude with a list of the most urgent tasks for numerical relativity in these three areas.

Comments: Updated version, references added; 47 pages, 3 figures

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