

Abstract Submitted  
for the APR07 Meeting of  
The American Physical Society

**Matched Filtering and Convergence of Numerical Relativity Templates**<sup>1</sup> DEIRDRE SHOEMAKER, Penn State — Tremendous progress has been achieved recently towards the solution of the binary black hole problem. We are now in the position of quantifying the quality of the numerical relativity waveforms when used for data analysis. This paper presents a study that establishes a connection between the convergence of numerical waveforms and the matched filtering properties commonly used in data analysis. In particular, we focus attention on the impact of phase errors since these errors play a dominant role in simulations of binaries with large initial separations of the black holes. We also present a summary of our recent binary black hole evolutions.

<sup>1</sup>Work partially supported by NSF grant PHY-0354821.

Deirdre Shoemaker  
Penn State

Date submitted: 09 Jan 2007

Electronic form version 1.4