

Abstract Submitted
for the APR09 Meeting of
The American Physical Society

Mining black hole binary merger waveforms: characterising spinning intermediate mass black holes¹ BIRJOO VAISHNAV, CGWA, University of Texas at Brownsville, RICHARD O'SHAUGHNESSY, CGWP, PennState, DEIRDRE SHOEMAKER, CRA, Georgia Institute of Technology, GA, FRANK HERRMANN, University of Maryland, College Park, MD, IAN HINDER, AEI, Potsdam — Coalescing spinning black hole binaries will imprint information about their initial and final mass and spin configuration on their emitted waves. Though this imprint is relatively well understood before and after the merger phase, an understanding of the strongest, most nonlinear waves requires full numerical relativity. We present an analysis of this imprint for specific waveforms from a lower-dimensional subspace of the full binary configuration space. More specifically, we estimate how many distinguishable quadrupolar waveforms are required to sparsely match any waveform in our subspaces. All waveforms used in our estimate have been realized numerically.

¹BV acknowledges support from CGWA, Univ. of Texas at Brownsville.

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Date submitted: 19 Jan 2009

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