Abstract Submitted
for the APR12 Meeting of
The American Physical Society

Reduced basis for spinning, non precessing binaries MANUEL TIGLIO, SCOTT FIELD, University of Maryland, CHAD GALLEY, JPL-Caltech, FRANK HERRMANN, University of Maryland, EVAN OCHSNER, University of Wisconsin-Milwaukee — We extend our Reduced Basis results of Phys.Rev.Lett. 106, 221102 (2011) to the case in which spin in the absence of precession is included. We find that the number of bases needed to represent the full spectrum of such waveforms is marginally larger than the one needed for the non-spinning case. The method, in particular, gives a set of nearly optimal points in parameter space, in a precise mathematical sense, for purposes such as calibration of phenomenological or EOB models. On a broader perspective, these results suggest that Reduced Basis with further enhancements can beat the curse of dimensionality in the two body problem in GR.

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Date submitted: 10 Jan 2012 Electronic form version 1.4