

Abstract Submitted  
for the APR21 Meeting of  
The American Physical Society

**Redshift factor from numerical relativity in the high mass ratio limit.**<sup>1</sup> SERGI NAVARRO ALBALAT, AARON ZIMMERMAN, University of Texas at Austin — The redshift factor helps us model high mass ratio inspirals by: providing a benchmark to different approximation schemes, connecting the first order redshift to second order binding energy and angular momentum, and playing a direct role in the hamiltonian formulation of EMRI dynamics. In this work we use numerical relativity simulations to extract the redshift factor in the high mass ratio limit. We compare it to the predicted value from first order gravitational self-force as well as giving a prediction of the second order contribution.

<sup>1</sup>Work supported by the NSF grant PHY-1912578

Sergi Navarro Albalat  
University of Texas at Austin

Date submitted: 08 Jan 2021

Electronic form version 1.4