

Abstract Submitted  
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**Using a corotating frame to model and interpret gravitational waves from strong-field binary black hole merger** RICHARD O'SHAUGHNESSY, University of Wisconsin-Milwaukee, JIM HEALY, LARNE PEKOWSKY, LIONEL LONDON, DEIRDRE SHOEMAKER, Georgia Institute of Technology — The short gravitational wave signal from the merger of black hole binaries encodes a surprising amount of information about the strong-field dynamics of merger into frequencies accessible to ground-based interferometers. In this talk we interpret the inspiral, merger, and ringdown signal as “precession” of the peak emission direction with time. We demonstrate gravitational wave polarization encodes the geometry of precession in an observationally accessible way, both prior to and after merger. In the corotating frame the radiated signal resembles previously-explored nonprecessing systems, with some limitations.

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