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The Periodic Standing Wave Approximation; second-order Post-Minkowski Formalism and Methods[1] RICHARD H. PRICE, University of Texas at Brownsville, CHRISTOPHER BEETLE, Florida Atlantic University, BENJAMIN C. BROMLEY, University of Utah, NAPOLEON G. HERNANDEZ, University of Texas at Brownsville — It has been shown with model problems involving nonlinear scalar fields that a helically symmetric solution, with standing waves, can be a useful approximation to the slow inspiral of binary neutron stars or black holes. The formalism was recently worked out to deal efficiently with linearized gravity in the harmonic gauge. We now present the extension of the method to the second-order Post-Minkowski approximation to general relativity. In particular it is shown that the formalism is easily extended to full general relativity.

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Richard H. Price
University of Texas at Brownsville

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