

Abstract Submitted  
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**Electromagnetic Counterparts from Tilted Magnetized Binary Neutron-Stars Mergers**<sup>1</sup> MARCELO PONCE, Department of Physics, University of Guelph, CARLOS PALENZUELA, Canadian Institute for Theoretical Astrophysics, PATRICK M. MOTL, Department of Science, Indiana University Kokomo, MATTHEW ANDERSON, Pervasive Technology Institute, Indiana University, ERIC W. HIRSCHMANN, Department of Physics and Astronomy, Brigham Young University, LUIS LEHNER, Perimeter Institute for Theoretical Physics, STEVEN L. LIEBLING, Department of Physics, Long Island University, DAVID NEILSEN, Department of Physics and Astronomy, Brigham Young University — Recent studies have demonstrated that the interaction of magnetospheres in binary neutron star systems can radiate strongly electromagnetically [1,2]. We study here a broader set of configurations accounting for tilted/misaligned dipoles in coalescing binaries and analyze the resulting Poynting flux and its correlation to the dynamics. In particular, the misalignment of the dipoles results in a very dynamic system with magnetic reconnections, shear layers, and current sheets. The electromagnetic radiation displays a distinctive pulsating behaviour tied to the orbital dynamics and stellar dipole orientations and the overall power of this radiation.

[1] C. Palenzuela, L. Lehner, M. Ponce, S. L. Liebling, M. Anderson, D. Neilsen and P. Motl, Phys. Rev. Lett. **111**, 061105 (2013)

[2] C. Palenzuela, L. Lehner, S. L. Liebling, M. Ponce, M. Anderson, D. Neilsen and P. Motl, Phys. Rev. D **88**, 043011 (2013)

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