20th Capra Meeting on Radiation Reaction in General Relativity



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Evolution of small-mass-ratio binaries with a spinning secondary

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We calculate the evolution and gravitational-wave emission of a spinning compact object inspiraling into a substantially more massive (non-rotating) black hole. We extend our previous model for a non-spinning binary [Phys. Rev. D 93, 064024] to include the Mathisson-Papapetrou-Dixon spin-curvature force. Using a generalized osculating element prescription we compute inspirals where the spin and orbital angular momentum are not parallel and the orbital plane precesses. For spin-aligned binaries we calculate the dephasing of the inspiral and associated waveforms with respect to models that do not include spin-curvature effects.

Primary author(s) : Prof. EVANS, Charles (University of North Carolina); Dr. WARBURTON, Niels (School of Mathematics and Statistics and UCD Institute for Discovery, University College Dublin); Dr. OSBURN, Thomas (Oxford College of Emory University)

Presenter(s) : Dr. OSBURN, Thomas (Oxford College of Emory University)