Contribution ID: **36** Type: **not specified**

Comparison of post-Minkowskian and self-force expansions: Scattering in a scalar charge toy model

Tuesday, 4 July 2023 11:20 (20 minutes)

The asymptotic nature of hyperbolic orbits provides a clean environment for comparisons between different methods of calculating scattering observables. In this talk, we present details of a (numerical) calculation of the scalar self-force correction to the scattering angle and compare with analytical expressions up to fourth post-Minkowskian order obtained using scattering-amplitude methods. This example provides a nontrivial, high-precision test of both calculation methods, and illustrates the complementarity of the two approaches in the context of the program to provide high-precision models of gravitational two-body dynamics.

Presenter: LONG, Oliver (Max Planck Institute for Gravitational Physics (Albert Einstein Institute))

Session Classification: Tuesday Morning