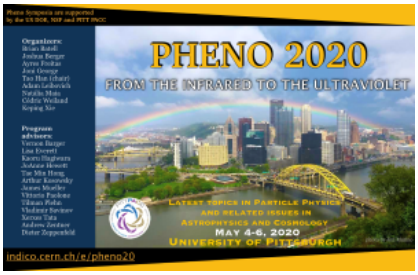

Contribution ID: **1033** Type: **Parallel Talk**

Spin Effects in Non-relativistic General Relativity Beyond the Leading Order

Monday 4 May 2020 15:00 (15 minutes)

Understanding spin effects in the evolution of compact object binaries is essential to proper interpretation of waveforms from gravitational wave observatories such as LIGO. Spin degrees of freedom can be incorporated naturally into a post-Newtonian expansion during the binary's inspiral phase. During this regime of a binary merger, there is a clear separation of scales between the radius of the compact object, the radius of the orbit, and the radiation wavelength that lends itself to an effective field theory description, known as non-relativistic general relativity. In this talk, I show how to include spin in this framework and how to extract physical observables relevant to producing analytical gravitational wave templates. In the process, I will discuss several subtleties of this method, including the need to impose proper spin supplementary conditions, and compare with calculations using alternative approaches.

Summary

Author: Mr PARDO, Brian (University of Pittsburgh)

Co-author: MAIA, Natália

Presenter: Mr PARDO, Brian (University of Pittsburgh)

Session Classification: Cosmology I

Track Classification: Cosmology