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## Multi-messenger probes of parity symmetry

*Tuesday, May 28, 2024 3:00 PM (1 hour)*

Gravitational waves (GWs) are an ideal observable to probe the properties of gravity, from the strong to the weak-field regimes. In particular, by studying their cosmological propagation, we can test the fundamental properties of gravity on large scales, such as parity symmetry. In this talk, I will discuss the signatures that parity violation would leave on gravitational waves from coalescing binaries, showing how the GW polarization can change from emission to detection. I will then argue that the observation of GWs from binary neutron stars and their EM counterparts provide a unique opportunity to probe polarization changes, and hence constrain parity violation in the future.

**Presenter:** LAGOS, Macarena (Andres Bello Natl. U.)