

Constraint interaction in dark sector with standard sirens

The gravitational waves (GW) as standard siren directly determines the luminosity distance d_L from progenitor source without assuming any cosmological model, of which the redshift z can be obtained with the electromagnetic counterpart like GW events from coalescence binary neutron star (NS-NS) or neutron star/black hole (NS-BH) pair. In the near future, with the third generation GW detector like Einstein Telescope (ET) and Laser Interferometer Space Antenna (LISA), standard sirens will be a very useful cosmological probe to help in constraint cosmological parameters. The interaction dark matter - dark energy (DM-DE) models consider a non trivial dark sector, where dark energy and dark matter interact with each other. We obtain the constraints in DM-DE coupling constant provide by a $d_L - z$ standard siren simulated catalog. We generate 100 to 1000 GW events from NS-NS pair which can be detected by Einstein Telescope and constraint model parameters using Monte Carlo Markov Chain (MCMC) algorithm.

Primary author: BACHEGA, Riis Rhavia (Universidade de São Paulo)

Presenter: BACHEGA, Riis Rhavia (Universidade de São Paulo)