Contribution ID: **28**   Type: **not specified**

Neutron star properties constrained by chiral effective field theory

Monday, 8 August 2022 14:40 (40 minutes)

By employing new energy density functionals, we investigate neutron star properties. The parameters in new energy density functionals are constrained by chiral effective field theory calculations, GW170817, and two nicer analyses using a Bayesian analysis. Nuclear symmetry energy and its slope parameters as well as macroscopic properties of neutron stars such as mass-radius relation, tidal deformabilities, and central densities. Furthermore, we found that the speed of sound needs to exceed the conformal limit when the maximum mass of neutron stars is greater than 2.1 times solar mass.

Primary author: LIM, Yeunhwan

Presenter: LIM, Yeunhwan