Contribution ID: **295** Type: **Talk**

Gravitational waveform from binary neutron star mergers: Numerical relativity and Effective-one body

Wednesday 16 December 2015 17:55 (20 minutes)

Measuring the neutron-star equation of state with gravitational waves is one of the scientific goal of ground-based gravitational-wave laser interferometers. To achieve this, we need end-to-end waveforms of binary neutron star mergers. Here we present waveforms that are computed with a long-term numerical relativity simulation. Then the waveforms are compared with those computed with effective one body formalism including the tidal effect. We construct hybrid waveforms of binary neutron star mergers from 100Hz to 2000Hz. We discuss measurabilities of the equation of state with these hybrid waveforms.

Author: HOTOKEZAKA, Kenta (Hebrew University)

Co-authors: KYUTOKU, Koutarou; SHIBATA, Masaru (Kyoto University); Dr SEKIGUCHI, Yuichiro (Toho University)

Presenter: HOTOKEZAKA, Kenta (Hebrew University)

Session Classification: 11 - Gravitational waves