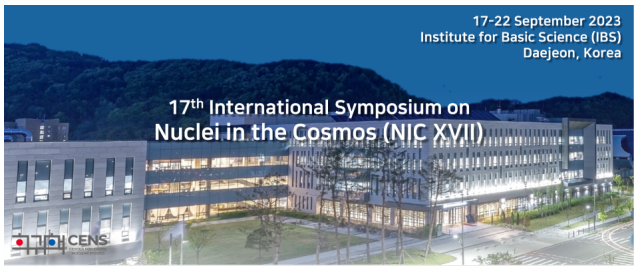

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Supernova gravitational waves and asteroseismology

Tuesday, 19 September 2023 18:00 (5 minutes)

The supernova, which is the event at the last moment of the massive star's life, is the next promising candidate as the gravitational wave source. Up to now, gravitational waves from supernova explosions have been mainly discussed via numerical simulation. These results tell us the existence of the gravitational waves whose frequencies increase from a few hundred hertz up to kHz within a second. However, the physics behind this signal has been unclear. In this talk, we discuss the supernova gravitational waves from the approach with asteroseismology and we show the universal relation in the supernova gravitational waves. Using our relation, once one detects the gravitational waves from the supernova, one can estimate the evolution of the average density of the protoneutron star.

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