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INPP Seminar | Detectability of Phase Transitions from Multimessenger Observations, Jan 21

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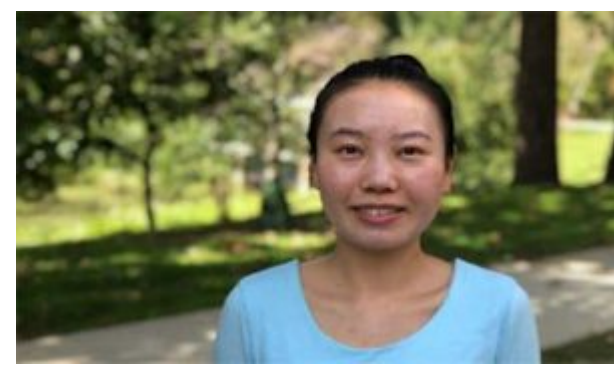
INPP Seminar | Detectability of Phase Transitions from Multi-messenger Observations, Jan. 21

January 1, 2020

Categories: Events

Tags: INPP Seminar, Institute of Nuclear and Particle Physics, Jun Han, physics and astronomy events

The Institute of Nuclear and Particle Physics (INPP) presents [Jun Han](#) of Ohio University, on “Detectability of Phase Transitions from Multi-messenger Observations”, on Tuesday, Jan. 21, at 4 p.m. in Edwards Accelerator Lab, Roger W. Finlay Conference Room.



Jun Han

Abstract: There is as yet firm evidence for quark matter cores in neutron stars. This is mainly because of the lack of direct probes of the opaque neutron star interior and the lack of clear qualitative difference between hadronic and quark phases. The detection of GW170817 along with the measurement of its tidal parameters has offered a first example of how the arrival of direct gravitational waves can be used to constrain the equation of state (EoS) of ultra-dense matter.

We shall discuss, taking into account currently available information, how to reveal possible phase transitions in neutron stars: the steadily growing body of astrophysical data and supported laboratory experiments should eventually allow us to narrow down the options by combining these various observations. We survey the proposed signatures of exotic matter and emphasize the importance of data from neutron star mergers.