PHAROS Conference 2020: The multi-messenger physics and astrophysics of neutron stars



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A NICER view of neutron stars (Invited)

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The cores of neutron stars contain matter at densities and neutron-proton asymmetries that are inaccessible in laboratories. Thus astronomical observations of neutron stars are the only source of information we have about this state of matter, which is a key part of the QCD phase diagram. One of the most important such measurements is of the mass and radius of these stars. Recently, NASA's Neutron star Interior Composition Explorer (NICER) released information about its mass and radius determinations, using a method that is believed to be less susceptible to systematic errors than previous approaches. I will discuss those results and their implications for the equation of state of the cold, catalyzed, dense matter in the interiors of neutron stars.

Primary author: Prof. MILLER, Cole (University of Maryland)Presenter: Prof. MILLER, Cole (University of Maryland)Session Classification: Invited Talks

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