Contribution ID: **75** Type: **Overview talk**

Dense matter equation of state constraints from NICER

Monday 11 November 2019 13:10 (30 minutes)

NICER, the Neutron Star Interior Composition Explorer, is an X-ray telescope that was installed on the International Space Station in 2017. Its mission is to study the nature of the densest matter in the Universe, in the cores of neutron stars. NICER does this by exploiting the effects of General and Special Relativity on radiation emitted by hotspots at the magnetic polar caps of X-ray pulsars. I will explain some of the challenges we have encountered along the way and present preliminary results from the mission. NICER is also paving the way for the Next Generation of larger area X-ray telescopes to be launched in the mid in the next decade, which will enable even bigger strides in our understanding of dense matter.

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Session Classification: Overview talks