Contribution ID: **239** Type: **Contributed Poster Presentation**

Restoration of conformality and the structure of neutron stars

I discuss the neutron star equation of state. I demonstrate that the restoration of conformal symmetry requires changing the sign of the curvature of the energy per particle. I argue that the curvature of the energy per particle may serve as an approximate order parameter that signifies the onset of strongly coupled conformal matter in the neutron star core. Lastly, I relate the thermodynamic properties of neutron stars to the average speed of sound in their interior and I draw conclusions on the behavior of the speed of sound.

Talk is based on:
- M. Marczenko, Phys. Rev. C 110 (2024) 4, 045811
- M. Marczenko, K. Redlich, C. Sasaki, Phys. Rev. D 109 (2024) 4, L041302

Primary author: MARCZENKO, Michał (University of Wrocław)

Co-authors: SASAKI, Chihiro (University of Wroclaw & SKCM2 at Hiroshima University); REDLICH, Krzysztof (University of Wrocław)

Presenter: MARCZENKO, Michał (University of Wrocław)

Session Classification: Poster Session

Track Classification: Nuclear Astrophysics