

THE PHYSICS COLLOQUIUM

Thursday 24 October 2024, 4:00 p.m.
Nijenborgh 4, Lecture Hall 5111.0022

Piecing Together the Neutron Star Puzzle: A Multi-Messenger Exploration of Extreme Matter

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Neutron stars, the remnants of supernova explosions, contain matter at densities far beyond what can be recreated in a lab. Understanding how this dense matter behaves is crucial for interpreting phenomena like neutron-star mergers. Despite advances in nuclear theory and experiments, many questions remain about the extreme conditions inside neutron stars. Fortunately, new observations are shedding light on these mysteries.

In this talk, I will give an overview of the so-called multi-messenger approach to studying neutron star matter, which combines data from various sources, such as nuclear theory, terrestrial nuclear experiments like heavy-ion collisions, and astrophysical observations of neutron stars. By integrating these datasets, using Bayesian statistics, we arrive at a state-of-the-art understanding of the behavior of matter under the most extreme conditions in the Universe.



Join us for coffee starting 3:30 p.m. Refreshments will be served after the lecture.

For more information contact the host: Julia Even (j.even@rug.nl)

Website: <http://www.rug.nl/research/vsi/colloquia/>