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Exploring the matter in the core of neutron stars

Thursday, October 31, 2024 11:00 AM (1 hour)

Observations of the heaviest neutron stars, together with mass and radius measurements and gravitational wave signals from binary neutron star mergers, progressively tighten the constraints on the equation-of-state of dense baryonic matter. Using the presently available observational data base, results are presented of detailed Bayes inference analyses. A focus is on prerequisites and limitations for hypothetical phase transitions at the densities realised in neutron star cores. Consequences for the possible structure and composition of matter under such conditions are discussed.

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