



Contribution ID: 119

Type: **1st and 2nd weeks (Hadron structure and interactions)**

Lectures on dense baryonic matter: from quarks to nuclei and neutron stars

Wednesday, October 23, 2024 9:00 AM (1h 30m)

An introductory overview will be given summarizing various aspects of the QCD phase diagram, with special emphasis on cold dense matter as it is realised in neutron star centers. This includes state-of-the-art results from Bayes inference of observational data. Also included are theoretical considerations at the scales relevant to neutron star physics: spontaneously broken chiral symmetry of QCD, the structure of the nucleon, nuclear effective field theory methods and functional renormalization group approaches, the neutron star cores as relativistic Fermi liquids, and the quest for a hadrons-to-quarks continuous crossover at high densities.

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Session Classification: Lecture