

GSI - FAIR Colloquium

Main Lecture Hall (SB1 1.120), 64291 Darmstadt, Planckstraße 1

*Tuesday, November 22, 2016,
16:15 Uhr (Tea from 15:45)*

Pre-Colloquium for Students at 15:30

Inside neutron stars: from hadrons to quarks

Gordon Baym - University of Illinois at Urbana-Champaign

While neutron stars were first posited in the early thirties, and discovered as pulsars in late sixties, it is only recently that we are beginning to understand the matter they contain. In this talk I will describe the ongoing development of a consistent picture of the liquid interiors of neutron stars, driven by three recent advances: observations of heavy neutron stars with masses ~ 2.0 solar masses; determinations of masses and radii simultaneously for an increasing number of neutron stars; and an emerging understanding in QCD of how nuclear matter [1] can turn into deconfined quark matter in the interior.

[1] T. Kojo, P. D. Powell, Y. Song, and G. Baym, Phenomenological QCD equation of state for massive neutron stars, Phys. Rev. D 91, 045003:1-15 (2015).

Einladender: Bengt Friman

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