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"Strange" Neutron Stars

Thursday, 13 February 2014 15:30 (1 hour)

The high-density nuclear equation of state within the Brueckner-Hartree-Fock many-body approach is discussed. Particular attention is paid to the effects of nucleonic three-body forces, the presence of hyperons, and the joining with an eventual quark matter phase.

The resulting properties of neutron stars, in particular the mass-radius relation, are determined and compared with recent observational data. It turns out that in this approach stars heavier than about 1.4 solar masses contain necessarily quark matter.

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