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Nuclear collective excitations and EoS

EoS (equations of states) is one of the most important ingredients for the study of neutron stars and supernova explosions. I will discuss the constrains on EoS from nuclear structure information. First, the isoscalar giant monopole resonances (ISGMR) are calculated by self-consistent HF+RPA or HF+BCS+QRPA and compared with available experimental data of closed shell and open-shell nuclei. A difference between empirical incompressibility between closed and open-shell nuclei is critically examined. Furthermore, the isotope dependence of ISGMR is studied in relation with the symmetry energy expansion terms J, L and Ksym. The symmetry energy coefficient constrains from other collective excitations and mass models are also mentioned.

Mardi 21 mars 2017, *11h30*
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