Compatibility of Neutron Star Masses and Hyperon Coupling Constants*

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It is shown that the modern equations of state for neutron star matter based on microscopic calculations of symmetric and asymmetric nuclear matter are compatible with the lower bound on the maximum neutron-star mass for a certain range of hyperon coupling constants, which are constrained by the binding energies of hyperons in symmetric nuclear matter. The hyperons are included by means of the relativistic Hartree– or Hartree–Fock approximation. The obtained couplings are also in satisfactory agreement with hypernuclei data in the relativistic Hartree scheme. Within the relativistic Hartree–Fock approximation, hypernuclei have not been investigated so far.