Influence of Interactions on Populations for Hyperons in Neutron Stars

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Abstract: The numerical results of the populations for the baryon octet in neutron star matter have been presented by solving a set transcendental equations in the framework of the relativistic mean field approximation. The influence of the hyperon interactions on hyperon populations in neutron star matter is discussed. The results manifest that when the ratio of the hyperon-to-nucleon couplings increases, all hyperons appear towards low baryon density direction.

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