

Nuclear pasta in neutron stars or Δ baryons in magnetars

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The appearance of anisotropic nuclei in the crust of neutron stars, called the pasta phase, can impact several macroscopic properties, e.g. cooling, magnetic field evolution and gravitational wave emission. In this talk, we will discuss some properties of the pasta such as impurities, conductivity and whether nucleon correlations can inhibit its appearance in the context of relativistic mean field models.

or

Magnetars are a subclass of neutron stars with surface magnetic fields that can reach 10^{15} G. In the core, the high densities can induce the appearance of hyperons and Δ baryons. In this talk, we discuss the effect of Δ baryons and their anomalous magnetic moment in magnetars.

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