

Effect of composition fluctuations in quark nucleation

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At the typical conditions of compact objects and related phenomena, exotic degrees of freedom such as free quarks are expected. The deconfinement of quarks in hadronic matter begins after the first seed of quark matter is created. This process is called nucleation, which occurs by local thermal or quantum fluctuations when the hadronic phase is metastable. I will initially present the nucleation conditions in hadronic stars in the two-family scenario. Finally, I will show a new possible framework for the study of nucleation that considers thermal fluctuations in the composition of hadronic matter occurring at finite temperatures.

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