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Pasta phases within the QMC and QMC $\omega - \rho$ models

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Pasta phases are believe to exist in the inner core of neutron stars and in the low density regions of core-collapse supernovae. The search for the existence of nuclear pasta phases in this region is performed within the context of two versions of the quark-meson coupling (QMC) model. Fixed proton fractions are considered, as well as nuclear matter in Î² equilibrium at zero temperature. We analyse the influence of the two different versions of the QMC as well as the effect of the nuclear pasta on some neutron star properties. The equation of state containing the pasta phase will be part of a complete grid for future use in supernova and neutron star mergers simulations.

Author: GRAMS, Guilherme (UFSC)

Co-authors: SANTOS, Alexandre (U); PANDA, Prafulla; PROVIDÊNCIA, Constança (University of Coimbra); MENEZES, Debora (UFSC)

Presenter: GRAMS, Guilherme (UFSC)

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