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## Relativistic density functional approach to quark matter in compact stars

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A principal element of strongly interacting matter phenomenology is the quark confinement at low baryonic densities. We develop an approach based on the relativistic density functional motivated by the string-flip model, which provides the low density suppression of quarks due to rise of their self-energy already at the mean-field level. Dynamical restoration of chiral symmetry is ensured by construction of the density functional. The connection of the present approach to the Nambu-Jona-Lasinio model with density dependent coupling constant is demonstrated. Supplemented with the vector repulsion and diquark pairing channels it is applied to model a cold quark matter. We also use the corresponding equation of state for modelling compact stars with quark cores.

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