Decrease in Mass of the Protoquark Stars During their Cooling

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The equation of state and the composite composition of a hot strange quark matter opaque to neutrinos are determined. The study is based on the MIT quark bag model. Three different variants of lepton content in hot quark matter are considered. According to the first variant, from leptons only

\[ e^-, e^+, \nu_e, \bar{\nu}_e \]

are present in the matter.

In the second variant,

\[ \mu^-, \mu^+, \nu_\mu, \bar{\nu}_\mu \]

are added to these leptons. And in the third variant, \( \tau^- \)-neutrino and \( \tau^- \)-antineutrino are also present in the matter and the phenomenon of neutrino oscillations is taken into account.

The numerical calculations are performed for different values of the temperature and the density of the lepton charge.
\[ \varepsilon = 3P + 4B + \Delta \varepsilon \]
THANK YOU