



Contribution ID: 127

Type: Seminar (invitees)

Dark matter effects in hadronic and strange stars

Friday, March 14, 2025 11:00 AM (30 minutes)

An important component that can directly affect the description of astrophysical and cosmological systems is dark matter (DM), whose fundamental nature is not completely understood at the moment. The current understanding predicts that 27% of the Universe is made of dark matter, 68% of dark energy (the main component that explains the accelerated expansion of the Universe), and only 5% of luminous matter. Recently, some studies were performed in which DM is coupled to hadronic and/or quark models and used to describe astrophysical systems, such as compact stars. In this talk, we show the effects of including DM content in hadronic relativistic mean-field models, as well as in a particular effective quark model, in which the respective constituent quark masses are density dependent functions (in-medium effects taken into account).

Author: Prof. LOURENÇO, Odilon (Instituto Tecnológico de Aeronáutica)

Co-authors: Dr F. COELHO, Anderson (Instituto Tecnológico de Aeronáutica); Dr H. RODRIGUES, Everson; Dr MARZOLA, Isabella; DUTRA, Mariana (Instituto Tecnológico de Aeronáutica)

Presenter: Prof. LOURENÇO, Odilon (Instituto Tecnológico de Aeronáutica)

Session Classification: Morning