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In-Medium Modification of Baryons Properties in a Relativistic Potential Model

In this study, We first obtain the effect of density of medium on modifying masses of baryons using relativistic potential model. Using this medium modified mass which enables us to calculate the medium dependent nuclear properties- such as charge radius, magnetic moment and axial vector. These obtained in-medium properties of baryons are helpful in understanding matter under extreme conditions, providing significant insights into both theoretical and experimental nuclear physics as well as high energy physics. We obtain this properties under different scenarios of isospin asymmetry and strangeness fraction that helps to model complex systems, from neutron stars to heavy-ion collisions.

Field of contribution

Phenomenology

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