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## Scalar field dark matter with $\phi^6$ self-interaction

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The ultralight dark matter (ULDM) model proposes as DM particles candidates bosons with typical mass  $10^{-22}$  eV, such that its de Broglie wavelength is of galactic scale ( $\sim$ kpc). The ULDM was among the models, that were proposed to resolve CDM tensions on the small scales, such as core-cusp and missing satellite problem. However last times it faces some difficulties between observed spiral galaxies rotation curves and the model's predictions, if one takes into account core/host halo mass relation and the relation between mass and radius of a central core, that follows from simulations. In the present work, we consider complex scalar field minimally coupled to gravity with  $\phi^6$  self-interaction potential. We will discuss this model's predictions including DM density distribution in the galactic halo and its potential regarding solving the above-mentioned problems.

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