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N-body self-consistent stars-halo modelling of the Fornax dwarf galaxy

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We present nearly self-consistent stellar-halo models of the dwarf spheroidal Fornax galaxy the satellite of the Milky Way galaxy. Such galaxies are dark matter dominated objects with almost no gas in them so they are excellent objects for N-body modelling that takes into account visible and dark matter(DM) halo components. Three models are self-consistent realizations containing a truncated King or Plummer models bulge (it stands for the stellar component of the galaxy) and the lowered Evans dark halo model. These components are given by the distribution functions which are the functions of E and L_z only. And four models with the King and Plummer visible components are made by the AGAMA code based on the calculation of orbits. To guess the parameters which make the N-body models close to the visible object we use hydrodynamic stellar-dark model of the Fornax galaxy taking into account the velocity anisotropy parameter. The AGAMA models show better agreement of the resulting velocity dispersion profiles with the observed data. We also traced the evolution of all these models and found them rather stable during several typical dynamical times.

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