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Schwarzschild self-consistent modeling of the Fornax dSph galaxy using line-of-sight velocity distribution.

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Dwarf spheroidal (dSph) satellites of the Milky Way (MW) are the mostly dark matter (DM) dominated systems. Their dynamical parameters such as line-of-sight (LOS) velocities are measured very accurately, so they are very good probes of DM properties. We have constructed nearly self-consistent stars-halo model of the dSph Fornax galaxy using Schwarzschild orbit-superposition code of the AGAMA software library. This is a step forward after previous studies of this object based on more approximate Jeans equation approach. The code fits Gauss–Hermite (GH) expansion coefficients of the LOS velocity distribution for each apperture of the galaxy to their observational estimates. We use the latest data on the stellar velocities and their probability membership to estimate the GH coefficients of the observational data by the AGAMA code.

Primary author(s) : Mrs. SHCHELKANOVA, Galina (Kurchatov Institute)

Presenter(s) : Mrs. SHCHELKANOVA, Galina (Kurchatov Institute)

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