Potential of the Galaxy from the Besançon Galaxy Model including the triaxial bar

J. G. Fernández-Trincado, A. C. Robin, C. Reylè et al.

Abstract: In order to understand the structure and dynamical properties of the Galaxy, we are exploring, refining and preparing the Besançon Galaxy model and developing statistical methods with the aim of constructing a self-consistent and stable model taking into account a three-dimensional model for the Milky Way (**Triaxial bar** + 7 thin disc components + young-/old-thick disc + ISM + Stellar halo + Corona).

General idea: Construct a self-consistent dynamical model (Besançon Galaxy Model) (Old scheme with axisymmetric potential) to ("Non-axisymmetric Potential" including the triaxial bar)
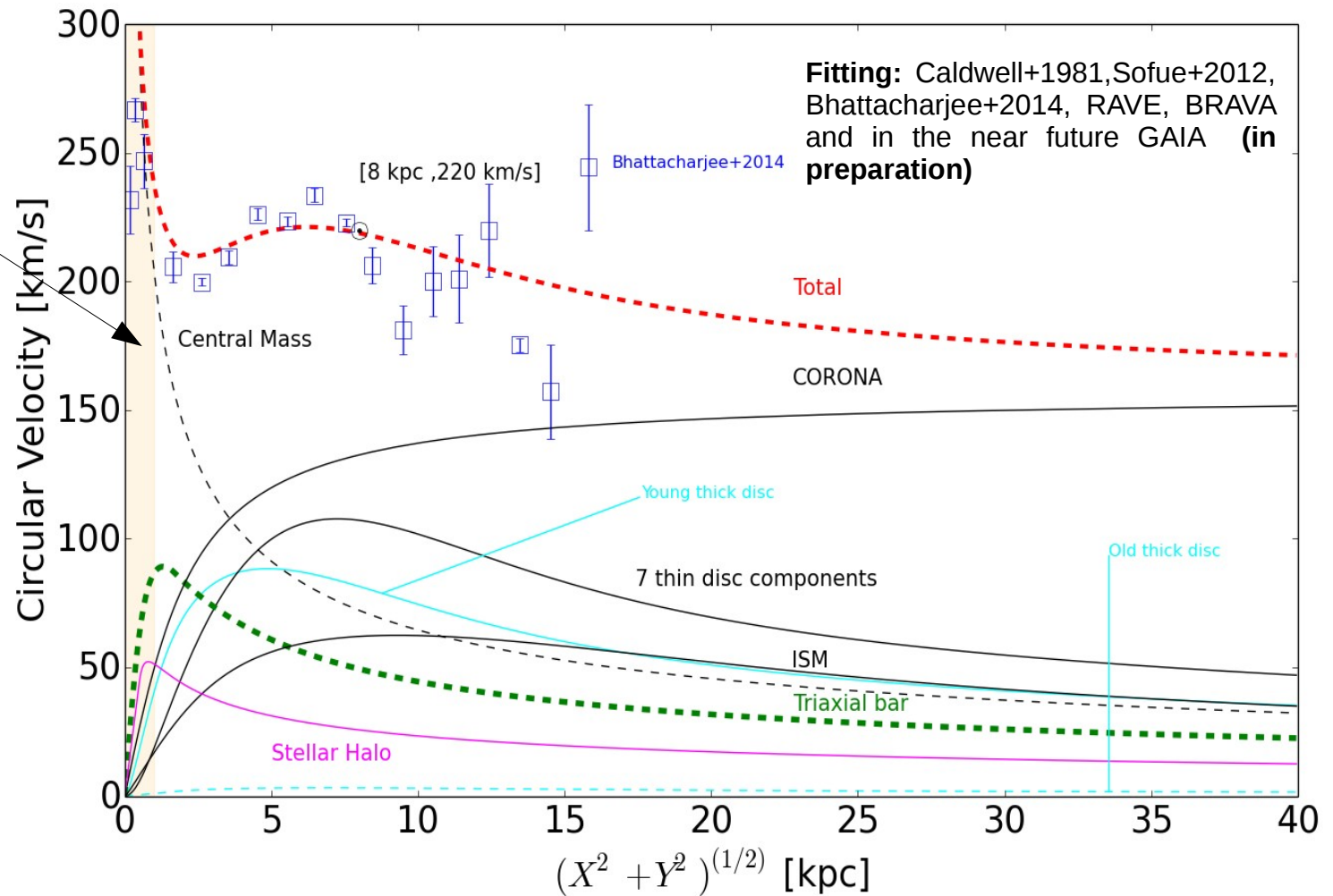
Exploring the kinematics properties within 1 kpc. **(in preparation)**

Density law for the thin disc in Robin et al. (2003) and thick thick (Young and Old components) in Robin et al. (2014).

Density law for Triaxial Bar in Robin et al. (2012). Field force and potential are derived based in Schmidt (1956) and Pichardo (2004), superposition model.

Density law for Stellar Halo in Robin et al. (2014). New field force and potential **in preparation** according to Hernquist model.

Fitting: Caldwell+1981, Sofue+2012, Bhattacharjee+2014, RAVE, BRAVA and in the near future GAIA **(in preparation)**