

Manuela Zoccali

Title: The Galactic bulge

Abstract: The 3D structure, kinematics and stellar population of the Galactic bulge are very complex. Only a few years ago the bulge was discovered to be X-shaped, a structure believed to originate from the dynamical instabilities of a disk, through the formation of a bar.

The study of the bulge kinematics reveals a cylindrical rotation, typical of a bar, suggesting the absence of a spheroidal component.

Nevertheless, the bulge stellar population is old, has a radial metallicity gradient, and element ratio indicative of a short formation timescale. In addition, bulge RR Lyrae variables trace an axisymmetric spheroid.

All these elements conflict with a simplistic view of the bulge as a heated bar, formed via "secular" evolution of a disk. I will review our knowledge of the bulge properties as traced by red clump stars and RR Lyrae.