The analysis of the moments of the velocity distribution in the Gaia sphere.

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Abstract

The good precision in Radial Velocities provided by the WEAVE instrument (at ING) together with the proper motions obtained by the Gaia (ESA) mission can allow the kinematic study of the end of the bar region. This is a rich, kinematically speaking, region that could help answering the big question regarding the one bar or two bar problem. Therefore, with Gaia and WEAVE, we are not limited to the study of the bar overdensity, but we can use all the 6D phase space. We are currently working on the analysis of the moments of the velocity distribution function in the Gaia sphere, about 4 – 5kpc from the Sun, to try to obtain information on the potential of the Galaxy.