

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

Romero-Gomez, M.<sup>1</sup>, Antoja, T.<sup>2</sup>, Figueras, F.<sup>1</sup>, Aguilar, L.<sup>3</sup>, Abedi, H.<sup>1</sup>

<sup>1</sup>*Dept. d'Astronomia i Meteorologia, Institut de Ciències del Cosmos, Universitat de Barcelona (IEEC-UB), Martí i Franquès 1, E08028 Barcelona, Spain*

<sup>2</sup>*Research and Scientific Support Office, European Space Agency (ESA-ESTEC), PO Box 299, NL-2200 AG Noordwijk, the Netherlands*

<sup>3</sup>*Instituto de Astronomía, Universidad Nacional Autónoma de México, Apdo. Postal 877, Ensenada, 22800, Baja California, México*

### **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.