

## The analysis of Gaia capabilities to trace the dynamics of the Galactic warp

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### Abstract

We want to evaluate Gaia capabilities to trace the dynamics of the warp. We define a geometric model for the warp and apply it to the disc component of the Allen & Santillán axisymmetric potential for the Milky Way Allen & Santillán (Allen C. & Santillán, A. 1991, *RevMexAA*, 22, 255). We define two cases, namely the control case, which is the original Allen & Santillán potential, and the “warped” case, where we modify the disc component. We use test particle simulations to integrate initial conditions in both cases. In the “warped” case, we introduce the warp adiabatically to preserve the statistical equilibrium. Then we compare both, control and warped configurations and we plan to simulate Gaia astrometry for both cases to check the level of significance of difference between them.

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