A SYNOPTIC VIEW OF THE MAGELLANIC CLOUDS:
VMC, GAIA AND BEYOND

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The Clouds in 6D

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The Gaia second data release (DR2) has offer an unparalleled large-scale view of the Magellanic Clouds dynamics. However, the study of smaller stellar groups or individual stars within the clouds is largely impacted by the relatively large systematics error affecting the DR2 astrometry. We have corrected such systematics using deep learning techniques, and obtained the most accurate velocity field of both galaxies up to date. In this talk we will present the three-dimensional structure of both galaxies and their respective three-dimensional velocity fields. We will also show the distribution of their stellar populations, with ages and metallicities derived from CMD fitting techniques. Lastly, we will study the interaction of both galaxies by looking at the two main stellar bridges present between the two clouds.