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

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A Stellar Proper Motion Map of the SMC from the VMC Survey

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The Magellanic Clouds are currently interacting with each other and the Milky Way and are in the early phases of a minor merger event. Due to their close proximity and position below the Galactic plane, the Clouds provide an unique opportunity to study in great detail the kinematics of resolved stellar populations within an interacting pair of galaxies. Thanks to the precision of state-of-the-art observing facilities, it is now possible to measure, in addition to radial velocities, the motions of Magellanic Cloud stars in the plane of the sky and access the entire three-dimensional velocity field of various stellar populations within the Clouds. The recently finished nearinfrared VISTA survey of the Magellanic Cloud system (VMC) is specially designed to study in detail multiple aspects of the LMC and SMC. Thanks to its multi-epoch nature, the VMC data can be used for measurements of stellar proper motions. In this contribution, we will present results from our ongoing project dedicated to measure the proper motions of large samples of stars across the SMC, showing the large scale velocity field within the SMC and the small scale motions of individual stellar populations.