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

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A spectroscopic high-resolution comparison between LMC and Sagittarius dwarf galaxy

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The Large Magellanic Cloud (LMC) and the remnant of the Sagittarius (Sgr) dwarf spheroidal galaxy are the closest satellites of the Milky Way (MW). They are excellent cases to investigate and unravel star formation and chemical enrichment histories of irregular/dwarf galaxies that have experienced gravitational interactions with MW. Also they are important in the framework of the hierarchical scenario of the galaxy formation because they could be possible building blocks of MW. Both galaxies are characterized by an extended, still ongoing star-forming activity, so their stellar populations cover a wide range of ages and metallicities. A direct comparison among the chemical patterns of LMC, Sgr and MW is crucial to understand the chemical enrichment history of interacting galaxies. Therefore we homogeneously analyzed high-resolution spectra of RGB stars belonging to LMC, Sgr and MW. We derived chemical abundances for the main groups of elements (light, alpha, iron-peak, neutron-capture elements) that will allow to reconstruct the chemical enrichment histories of these galaxies and to estimate the role played by Type II and Ia Supernovae and AGB stars to their chemical evolution.