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

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Miras at maximum light in the Magellanic Clouds and beyond

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We will present Period-Luminosity and Period-Luminosity-Color relations at maximum-light for Mira variables in the Magellanic Clouds using time-series data from the Optical Gravitational Lensing Experiment and Gaia data release 2. These maximum-light relations exhibit a scatter typically smaller than their mean-light counterparts. High-precision photometry from Kepler mission for few Mira candidates, together with their multi-epoch spectra from LAMOST survey, is used to investigate the stability of maximum-light magnitudes over different pulsation cycles. The initial evidence of stability of maximum-light magnitudes for both individual Miras and a group of Miras with similar periods, can be attributed to the decrease in the sensitivity to molecular bands at their warmest phase. Limited near-infrared data for Miras in the Magellanic Clouds and the Galactic globular clusters are used to derive Period-Luminosity relations at maximum-light, and their distance scale application will be discussed with Cen A as a target galaxy.