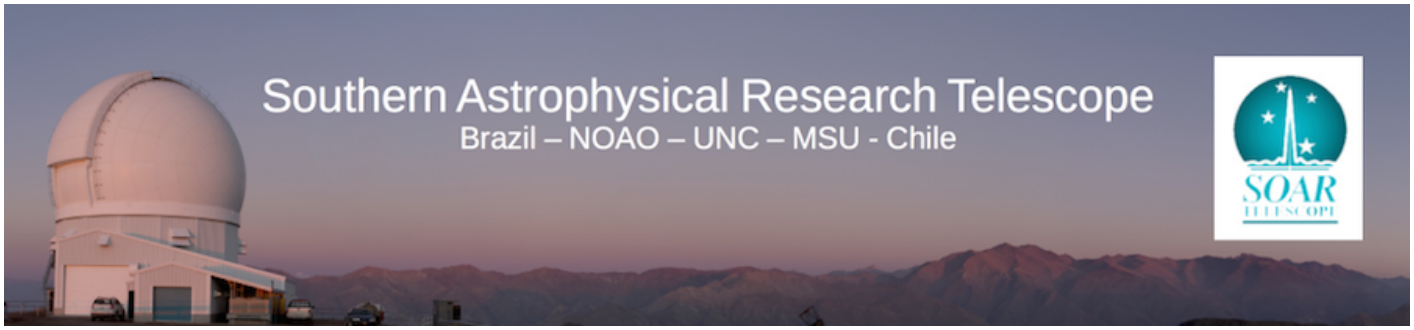

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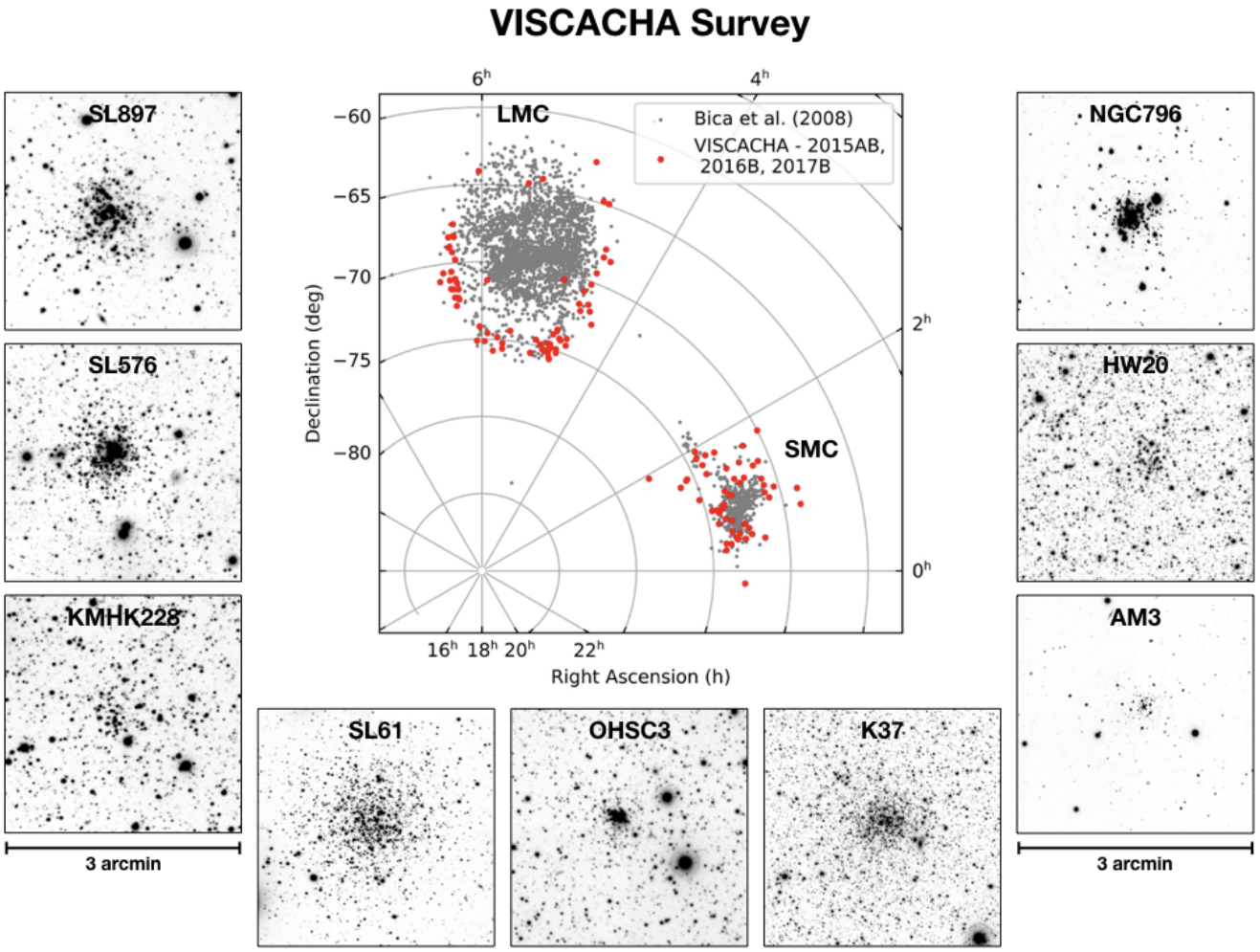
The VISCACHA survey: deep and spatially resolved photometry of Magellanic Cloud star clusters with SAM

Submitted by jelias on Mon, 2019-02-18 16:49

The VISCACHA survey is an ambitious project that aims to observe deep and spatially resolved photometry of all star clusters in the periphery of the Magellanic Clouds. The need for a few hundred hours of 4-m telescope time, coupled with an adaptive optics module, makes SAM-I at SOAR [1] the perfect setup.
Among the topics where the VISCACHA survey will play an important role are:

- 3D map of the Magellanic Clouds with accurate physical (age, metallicity, reddening, luminosity function, total mass) and structural (core radius, tidal radius, ellipticity) parameters for all star clusters;
- Age-metallicity relation and radial gradients
- Star cluster formation and dissolution history
- Initial mass function of high- and low-mass clusters
- Extended main-sequence turnoff

... and more. The first paper, accepted by MNRAS [2], (Maia et al., 2019) describes the survey and the full analysis of nine selected clusters. The figure below is taken from this paper.



Central panel: VISCACHA sample, including ~130 clusters observed through 2015-2017 (red circles). Small black dots correspond to the catalogued objects in the Magellanic System by Bica et al.(2008: MNRAS 389,678). Surrounding panels:V images of selected targets, representing the variety of cluster types in the survey.

More information can be found on the VISCACHA website: http://www.astro.iag.usp.br/~viscacha/ [3]
(Thanks to Bruno Dias and collaborators for the text and figure)

Source URL:
http://www.ctio.noirlab.edu/soar/content/viscacha-survey-deep-and-spatially-resolved-photometry-magellanic-cloud-star-clusters-sam

Links
[1] http://www.ctio.noirlab.edu/soar/content/soar-adaptive-optics-module-sam
[2] https://arxiv.org/abs/1902.01959
[3] http://www.astro.iag.usp.br/~viscacha/