M31 @ Observatorio Astrofísico de Javalambre

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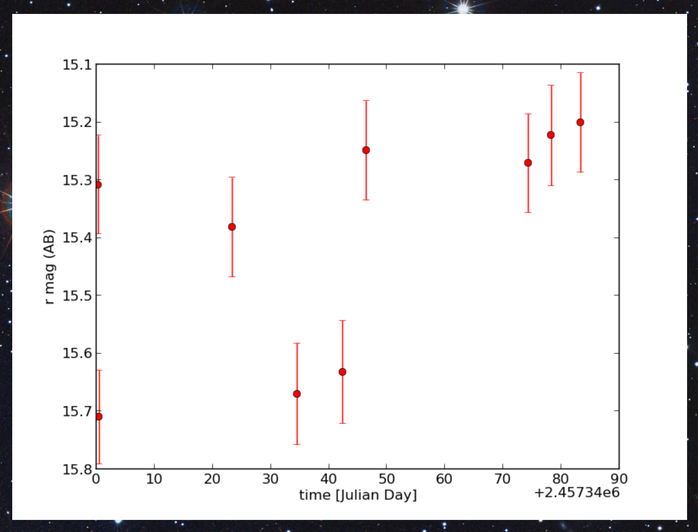
Abstract

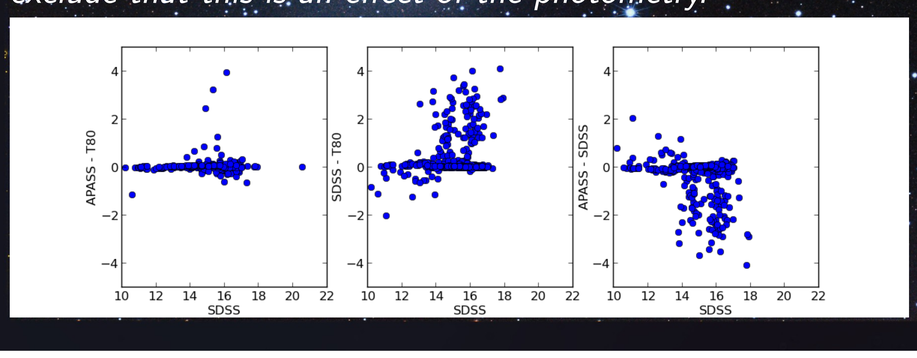
M31 is undoubtedly the most important and studied extragalactic object of the Northern hemisphere. One of the dominant galaxies of the Local Group, M31 has a fundamental role in stellar evolution studies. This poster shows preliminary results of a monitoring program carried out with the JAST/T80 from the Observatorio Astrofísico de Javalambre, aimed at the study of the variables in this galaxy. This telescope's unique field of view and filter set allows for variability studies of unprecedented quality.

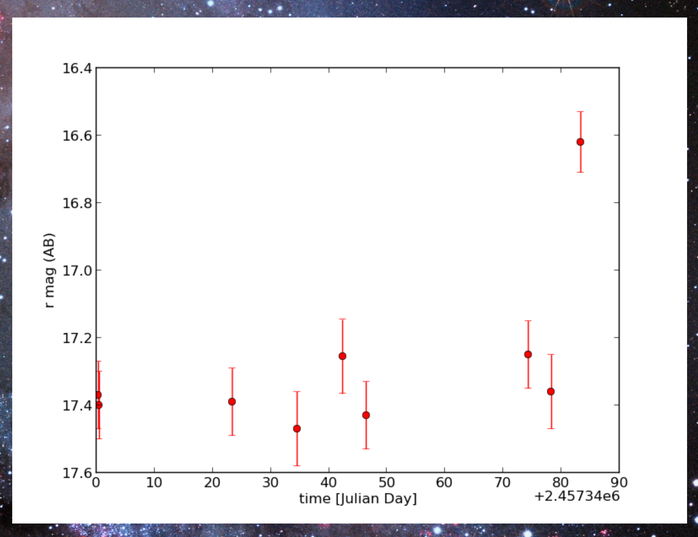
The RGB image of M31 was obtained combinging g,r,i and J0660 images for a total time of 90s,90s,120s y 720s, respectively. The average psf is ~ 1.6 .



r-band light curve of an eclipsing binary (CRTS J003909.9+410422) detected by our differential imaging pipeline.

Comparison between the r-band photometry of APASS, SDSS and the present program. Note that the limiting magnitude is driven by the shallowest of the three catalogues (in this case, APASS). Most of the objects (∼700) show no variability whatsoever but some (about 10%) do show different magnitudes between catalogues. Since the objects are located out of M31 (since SDSS did not observe M31 in r), we exclude that this is an effect of the photometry.





AE And is the only variable object detected in this field by APASS, SDSS and the current project. This is an eruptive variable of the S Dor type. Here we reproduce its r-band light curve.

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