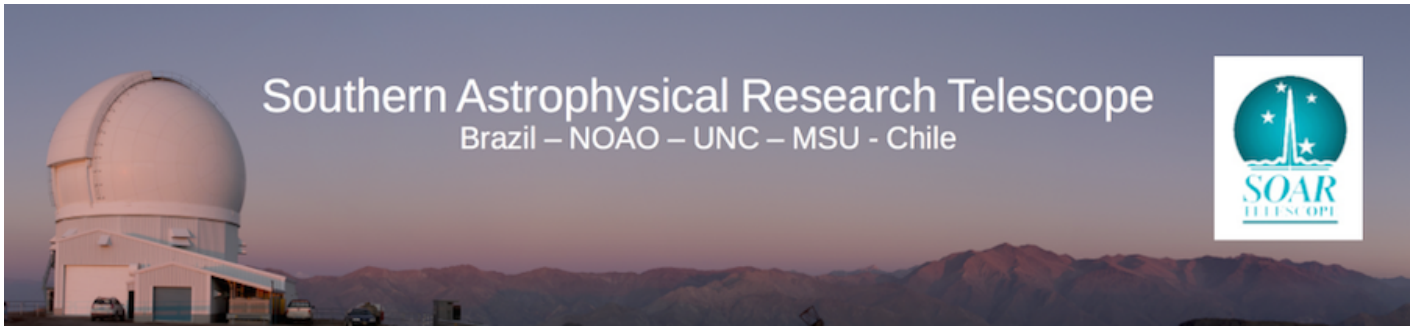

Published on *SOAR* (http://www.ctio.noirlab.edu/soar)

TripleSpec 4.1

TripleSpec 4.1 NIR Imaging Spectrograph

TripleSpec4.1 was first commisioned on the CTIO [1] 4-m Blanco telescope [2] as ARCoIRIS [3]. In order to provide greater community access to the instrument, it was decided to move ARCoIRIS [3] to the SOAR 4.1-m [4]telescope during the 2019A semester. For this move, we installed new optics in the instrument so that the plate scale and spectroscopic resolution would remain unchanged. TripleSPec4.1 is a cross-dispersed, single-object, longslit, infrared imaging spectrograph, containing no moving parts, and is based on an updated design of the three existing TripleSpec spectrographs installed on the 3.5m telescope at Apache Point Observatory, the 5-m Hale telescope at Palomar Observatory, and on the 10-m KECK II telescope on Maunakea.
TripleSPec4.1 features a fixed slit assembly of 1.1-arcsecs by 28-arcsecs. Spectra cover a simultaneous wavelength range of 0.80 to 2.47 microns, at a spectral resolution of approx. 3500, encompassing the entire z'YJHK photometric range.
TripleSpec4.1 is mounted on SOAR on the IR Nasmyth platform, replacing the OSIRIS spectrograph on one of the side ports. The instrument is fed by a dichroic, which allows visible light to go to the facility guider. The guider is able to patrol the full field of view, including the spectrograph target, So long as there is a suitable guide star in the field of view, this provides faster guiding than the TripleSPec4.1 slit viewer, and therefore better image correction. The slit viewer is still usable where there are no visible guide stars.

Differences from Blanco [13]
Commissioning and Science Verification [14]
Updated December 15, 2019 [SDP]

Links
[1] http://www.ctio.noao.edu/noao/
[2] http://www.ctio.noao.edu/noao/content/Victor-Blanco-4-m-Telescope
[3] http://www.ctio.noao.edu/noao/content/Arcoiris
[4] http://www.ctio.noirlab.edu/soar
[5] http://www.ctio.noirlab.edu/soar/content/instrument-characteristics-0
[6] http://www.ctio.noirlab.edu/soar/content/startup-and-shutdown-guide
[7] http://www.ctio.noirlab.edu/soar/content/observing-guide
[8] http://www.ctio.noirlab.edu/soar/content/ts4calibration
[9] http://www.ctio.noirlab.edu/soar/content/data-reduction
[10] http://www.ctio.noirlab.edu/soar/content/request-assistance
[11] http://www.ctio.noirlab.edu/soar/content/acknowledgements
[12] http://www.ctio.noirlab.edu/soar/content/history
[13] http://www.ctio.noirlab.edu/soar/content/differences-blanco
[14] http://www.ctio.noirlab.edu/soar/content/commissioning-and-science-verification