

“Solaris”. Global network of robotic telescopes for stellar astronomy, exoplanets and space surveillance and tracking (No 1524)

🕒 11:30 - 12:00 🗨️ Plenary talk 🔗 Plenary 4

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“Solaris” is global network of robotic telescopes with one of the telescopes equipped with a small but very efficient mid-resolution echelle spectrograph BACHES. The 0.5-m telescopes are located at sites having similar separation in longitude and nearly identical latitudes: South African Astronomical Observatory, Republic of South Africa (Solaris-1 and -2), Siding Spring Observatory, Australia (Solaris-3) and Complejo Astronomico El Leoncito, Argentina (Solaris-4). The network is operational since April 2014 and was originally envisioned to carry out a timing search for circumbinary planets around eclipsing binary stars. The photometric survey has resulted so far in about 16.5TB of scientific data (i.e. not counting calibration frames, 2.2 million images). The total sample of various photometric targets was ~300. Approximately 200 of them were initially tried for the timing survey. This timing survey target list was subsequently narrowed down to about 80 targets. The timing survey was complemented with a spectroscopic survey of eclipsing binaries that covered ~380 binary systems. The total number of high resolution spectra exceeded 4500, and the telescope time granted since 2010 was ~250 nights. It is likely the largest ever high resolution spectroscopic survey of eclipsing binaries. We will present the current status of the network, incoming results from both the photometric and spectroscopic efforts and the opportunities to use the network for new endeavours including its application to the European Space Surveillance and Tracking program.