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Results from optical spectropolarimetric & photometric observations of blazars

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At optical wavelengths, blazar SEDs show a superposition of non-thermal (polarised) emission from the jet, and thermal (unpolarised) emission from the accretion disc, broad-line region, dust torus and host galaxy itself. Due to their variability, the level of polarisation present in blazar emission changes as the non-thermal jet emission becomes more/less prominent. Hence, polarisation studies in blazars provide a direct link to jet activity, as well as a tool to disentangle the different emission components in blazar SEDs. Since 2016, as part of a ToO observation campaign with the Southern African Large Telescope (SALT), a selection of 18 blazars (10 FSRQs, 8 BLLs) have been observed during different states (low/quiescent or high/flaring) to trace the evolution of polarisation in its emission. The optical spectropolarimetry observations cover a wavelength range of $\lambda \approx 3500$Å -9000Å, with a resolution of $R \approx 170 - 530$ (grating PG0300), or $R \approx 670 - 1040$ (grating PG0900). The observations provide the optical spectra, and the degree of polarisation and polarisation angle as a function of wavelength. The observations have been complemented by quasi-contemporaneous photometric observations taken with the Las Cumbres Observatory (LCO) to improve flux calibration and study optical light curves. We present an overview of some results for this campaign.

Track

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