MAVIS: Astrometric and NCPA Calibration Strategies and Prototyping

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Abstract

The adaptive optics module of MAVIS will feed an imager and spectrograph with an MCAO corrected wavefront, producing near-diffraction-limited science in the visible spectrum over a wide field of view. To capitalise on this, non-common path aberrations between the wavefront sensors and science instruments must be measured and corrected over the field. Additionally, there will always be a small amount of undesirable distortions over the field of view, which must be characterised to deliver the required astrometric performance. Both the NCPA and astrometric calibration methods depend on novel techniques, which we have simulated in software and are prototyping on the bench to verify these calibration strategies. We will introduce these techniques, and report on the status of these prototypes.

Keywords: MAVIS, calibration, astrometry, NCPA, prototyping

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