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Phase characterisation of a deformable mirror through digital Stokes polarimetry

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Deformable mirrors have predominantly been used in a wide range of fields such as adaptive optics due to the robustness they possess in terms of aberration correction. In this work we utilise the combination of interferometry and digital Stokes polarimetry to characterize the wavefront emerging from a deformable mirror. We achieve this by interfering two fields of orthogonal polarisation whereby one polarisation acts as the reference beam with a known phase and the other is reflected from the deformable mirror with an unknown phase. These two beams then propagate to a Spatial Light Modulator and subsequently a polarisation grating to separate the orthogonal polarisation components, allowing one to extract all four Stokes parameters needed to determine the intramodal phase.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

MSc

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