

## The Galway astronomical Stokes polarimeter: optical development

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**Abstract.** The acquisition time of astronomical polarimeters has in the past been restricted to by the use of polarimeters utilizing modulated or rotating components [1]. If the polarisation state being measured is changing in the order of nanoseconds, how does one measure this? The Galway Astronomical Stokes Polarimeter (GASP) is an instantaneous full Stokes Division Of Amplitude Polarimeter (DOAP) that has been developed for astronomical imaging polarimetry. It also uses just one camera thus restricting the acquisition time to photon statistics. Following the work of Compain and Drévilon [2], the main component - the Retarding Beam-Splitter, was redesigned and enhanced for imaging use. We present how the polarization and imaging optics were developed to create a broadband imaging instantaneous polarimeter.

### References

1. J. Hough, *Encyclopaedia of Astronomy & Astrophysics* (IOP Publishing Ltd, 2006)
2. E. Compain, B. Drévilon, *Applied Optics*, **37**, 5938 (1998)