
PAPYRUS : a pyramid AO development bench

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Abstract

The pyramid wavefront sensor is a promising analyser for adaptive optics, belonging to the class of the Fourier filtering wavefront sensors (FFWFS). Within the past years the FFWFS have been theorized leading to the emergence of new concepts such as the flatten pyramid or the Zernike 2.0. However these brand new theoretical developments on FFWFS have to be tested on-sky before been implemented on ELT like telescopes.

In this context we developed the Papyrus AO system and installed it on a 1.5m telescope at Observatoire de Haute Provence (France). The first light was achieved successfully in June 2022. Papyrus is based on a pyramid wavefront sensor working in the visible. This bench will make it possible to test new FFWFS concepts and coupling the pyramid first stage to other instruments: AO second stage with FFWFS, fiber injection for spectroscopy and coronagraphy.

In this presentation we will review the first results and discuss the upcoming developments in FFWFS open to the AO community.

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