Updates from the MICADO PSF reconstruction working group

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Abstract

The Point Spread Function (PSF) of AO-assisted instruments presents a peculiar and more complex morphology compared to seeing limited instruments. Moreover, the majority of ELT instruments will have a relatively modest field-of-view; therefore in many cases there will not be a sufficient number of bright and isolated stars in the observed field to model the PSF with great accuracy; this could strongly hamper the scientific potential of the observations. The PSF Reconstruction (PSF-R) Team of MICADO is currently implementing, for the first time within all ESO telescopes, a software service devoted to the blind reconstruction of the PSF. This tool will work using telemetric data only, both for the SCAO and the MCAO (MORFEO) MICADO modules without using the scientific focal plane data. I will review the general concepts and astrophysical context and present recent results obtained on simulated and real data gathered on instruments similar to MICADO.

Keywords: spatial PSF reconstruction

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