



Contribution ID: 40

Type: recorded talk

Strategies of point spread function determination for MAVIS.

Images delivered by optical systems are formed through a convolution between the intensity distribution of the observed object and the system Point Spread Function (PSF). As a consequence, accurate estimations of the object properties (photometry, astrometry, morphology, ...) require models or measurements of the PSF. Such an estimation becomes a bottleneck when deploying Adaptive-Optics (AO) that strengthen the temporal, spatial and spectral variability of the PSF. For instance, analyses of wide-field-AO images of stellar clusters face PSF variations across the field that prevent using only one PSF extracted from a sparse region in the field. Additional information are necessary to model the PSF shape and its variations, such as the wavefront measurements and telemetry delivered by the AO system through the process so-called PSF reconstruction (PSF-R).

Past work showed very promising results of PSF-R for single-conjugated AO (SCAO) systems, such as Keck, SPHERE, LBT...; however, generalizing this approach to multi-conjugated AO systems remains challenging and lacks on-sky demonstration so far. I will briefly present the PSF-R recipe that is commonly deployed for SCAO systems with on-sky results and present the strategies that are envisioned for MAVIS.

Primary author: Dr BELTRAMO-MARTIN, Olivier (LAM)

Presenter: Dr BELTRAMO-MARTIN, Olivier (LAM)

Session Classification: Star clusters over cosmic time