

Calibration of the Adaptive Optics Facility in Garching.

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Auditorium with JOHANN KOLB

The Adaptive Optics Facility (AOF) project will convert the VLT UT4 into an adaptive telescope, meaning in particular that the AO has to take control of the Telescope Active Optics (shaping of the primary mirror, guiding, field stabilization) and that there can be no calibration source upfront the Deformable Mirror as it is located in the telescope optical train (unlike in a "classical" post-focal AO system).

After presenting the general Control Strategy of the AOF-equipped Adaptive Telescope and the calibration plan for all loops at play, I will focus on the High-Order (HO) LGS loop. The baseline for its calibration is to generate a Pseudo-Synthetic Interaction Matrix (PSIM) based on a computer model of the system (in particular the Wavefront Sensors) and parameters measured on the ASSIST bench such as the DSM influence functions or the WFS pixel scale. In addition the ASSIST bench will allow fine-tuning this IM and evaluate the AO performance before bringing the AOF to the VLT.