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Venue: ESO Telescopium auditorium

Title: A high spatial resolution mode for MUSE – Laser Tomography Adaptive Optics in the visible

Abstract:

The commissioning of the Adaptive Optics Facility (AOF) project has just been completed, providing AO correction to two VLT foci supported by a deformable secondary mirror and four laser guide stars. Four AO modes have been delivered: an NGS SCAO system for commissioning purpose, wide field and medium field GLAO for seeing improvement and narrow field Laser Tomography AO (LTAO) for ultimate performance. This talk intends to describe the implemented AO baseline and to highlight the most relevant results and lessons learned. In particular, it will address the control and reconstruction strategy, the wavefront sensing baseline and the online telemetry used to cancel vibrations, estimate the turbulence profile and calibrate the misregistrations. Focusing on the LTAO mode, we will describe the tomography optimization, by exploring the reconstruction parameter space. Finally, on sky performance results will be presented for all modes. The first part of the talk is quite technical while the last part will be illustrated with nice HAWK-I and MUSE images acquired on sky.