

## Automatic Beam Stabilization for SHARK-VIS

*Tuesday 29 October 2019 17:00 (20 minutes)*

The results obtained from the first SHARK-VIS forerunner experiment have clearly shown that, despite the very good performances reached by the extreme-AO system of LBT, a beam stabilization system is required in order to reduce the residual jitter at the instrument, which is mandatory to improve image contrast in long exposure and coronagraphic observations. Driven by this requirement we developed a closed loop system, called Automatic Beam Stabilization (ABS), that runs at a frequency of up to 1 kHz. The ABS is based on a reactive piezo tip/tilt mirror and a fast low-noise sCMOS camera that are controlled by a commercial workstation implementing a forecasting algorithm to achieve PSF stability. In this talk we present the system architecture and discuss our promising laboratory test results as well as next implementation.

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