

Author: Richard Wilson, Durham University

Title: The Paranal SLODAR Optical Turbulence Profiler

Abstract:

SLODAR is an optical crossed-beams method for turbulence ranging, based on the Shack-Hartmann wavefront sensor. A SLODAR system has been operating in robotic mode at Paranal since March 2011. The instrument is optimised to measure the vertical profile of the surface layer of turbulence, in the first 100m above the site. The data is relevant to modelling and understanding the imaging performance of the VLT, both with and without adaptive optical correction. I will describe the SLODAR method, its application to the profiler at Paranal and some initial statistical results, as well as potential future developments and applications of the system.