
The Phasing and Diagnostic Station of ESO's ELT

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Abstract

The Phasing and Diagnostic Station (PDS) of ESO's ELT provides optical sensing functions needed to phase the 39 meter diameter segmented primary mirror and to characterize the telescope optics and optical performance for maintenance and diagnostic purposes throughout the telescope's lifetime. The PDS is a stand-alone piece of equipment, designed and developed internally at ESO and having external dimensions of approximately 4 m x 1.7 m x 2 m and a total mass of several tonnes. The PDS helps to bring the telescope after the installation of its mirrors to diffraction limited performance and into operational configuration for science by verifying telescope performance with respect to the high level specifications. We report on the current status of the final design, the expected performance and the plans for the assembly, integration, and test of the system.

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