EMIR mechanical design status

EMIR is the NIR multi-object imager and spectrograph for the GTC (Gran Telescopio Canarias). The instrument PDR phase was held successfully in March 2003, and we are at present in the middle of the ADR (Advanced Design Phase) during which a number of mechanical concepts will be tested on development prototypes to ensure the feasibility of the PDR proposed design. This presentation contains a technical description of the mechanical design of the instrument, as well as the prototypes development. The mechanical design is essentially built around the optical layout by providing an optical bench for mounting the optomechanics, the mechanisms and the detector, all this inside a custom-designed vacuum vessel and with the corresponding cooling system. One of its main design features is the use of a cryogenic reconfigurable slit mechanism to generate a multi-slit configuration, a long slit or an imaging aperture at the telescope focal plane. This feature will permit to maintain the instrument in operation conditions for a long time and take advantages in both a classically scheduled and a queued service observing schemes.

Paper Details

Date Published: 30 September 2004
PDF: 12 pages
Proc. SPIE 5492, Ground-based Instrumentation for Astronomy, (30 September 2004); doi: 10.1117/12.551122
Show Author Affiliations

Published in SPIE Proceedings Vol. 5492:
Ground-based Instrumentation for Astronomy
Alan F. M. Moorwood, Masanori Iye, Editor(s)

© SPIE. Terms of Use