



Contribution ID: 45

Type: **not specified**

Design of WFOS Camera Rotation System for TMT

Wide Field Optical Spectrograph (WFOS) is designed to provide large flexibility in observing modes to maximize the science capability. Imaging and several spectroscopic modes are available along with the choice of wavelength coverage at optimal efficiency by changing the grating angle. In order to achieve this, the camera also rotates to follow the grating. The opto-mechanical layout of the instrument allows a stable mounting of Camera Rotation System (CRS) on an optical bench and camera rotation in the gravity invariant direction that would minimize variable flexure introduced to the camera system.

CRS provides a stable mounting platform for the Camera lens assembly, Detector cryostat assembly, Filter exchange system and a rotation mechanism for the whole assembly about the grating rotation axis. The entire assembly is supported on the instrument optical bench. The main requirement of Camera rotation system should facilitate precise positioning at all observing modes and provide stable mounting interface that does not add further degradation to the standalone performance of camera and detector assembly and the rotation mechanism need to meet the positional accuracy (anywhere between 0 to 100 degrees) and stability needs for science requirement for the life of about 50 years.

Configuration and the Design of the Camera Rotation System for WFOS will be presented in the talk.

Presentation type

Poster

Primary author: KAMBHALA, SUDHARSAN

Co-authors: PRAKASH, AJIN (Indian Institute of Astrophysics); KV, Govinda (IIAP); VARSHNEY, Hari Mohan; T, Sivarani (Indian Institute of Astrophysics); Mr NASH, Reston (California institute of technology); DIVAKAR, Devika; SETHURAM, Ramya (Indian Institute of Astrophysics); NIGAM, Vaishaly; HASAN, Amirul (Indian Institute of Astrophysics Bangalore)

Presenter: KAMBHALA, SUDHARSAN