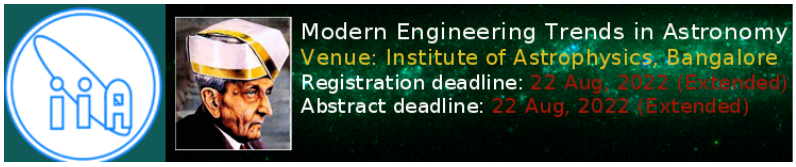

Contribution ID: **7** Type: **not specified**

NISP : A Near-Infrared Imager, Spectrometer and Polarimeter instrument

ABSTRACT :

NISP, a multifaceted near-infrared instrument for the upcoming 2.5m IR telescope at MIRO Gurushikhar, Mount Abu, Rajasthan, India is being developed at PRL, Ahmedabad. NISP will have wide (FOV = 10'x 10') field imaging, moderate (R=3000) spectroscopy and imaging polarimetry operating modes. It is designed based on 0.8 to 2.5 micron sensitive, 2048 X 2048 HgCdTe (MCT) array detector from Teledyne.
Optical, Mechanical and Electronics subsystems are being designed and developed in-house at PRL.
HAWAII-2RG (H2RG) detector will be mounted along with controlling SIDECAR ASIC inside LN2 filled cryogenic cooled dewar. FPGA based controller for H2RG and ASIC will be mounted outside the dewar at room temperature. Smart stepper motors will facilitate motion of filter wheels and optical components to realize different operating modes. Detector and ASIC temperatures are servo controlled using Lakeshore's Temperature Controller (TC) 336. Also several cryogenic temperatures will be monitored by TC for health checking of the instrument.
Detector, Motion and Temperature controllers onboard telescope will be interfaced to USB Hub and fiber-optic trans-receiver. Remote Host computer interface to remote end trans-receiver will be equipped with in-house developed GUI software to control all functionalities of NISP.
A poster on design and development aspects of NISP Electronics will be presented in this conference.

Presentation type

Poster

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