



Contribution ID: 48

Type: not specified

Design of Lenslet Array Mount for Thermal Stability and Athermalisation in SCALES

Slicer Combined with Array of Lenslets for Exoplanet Spectroscopy (SCALES) is an infrared instrument for Keck-II, being built by a consortium including UC Santa Cruz, UC Irvine, UCLA, the Indian Institute for Astrophysics, Keck Observatory, and Caltech. SCALES will have an Integral Field Spectrograph (IFS) to characterize the planetary atmosphere and a high-contrast Imaging Channel to detect exoplanets.

Its fully cryogenic optical train uses a custom silicon lenslet array, selectable coronagraphs, and dispersive prisms to carry out integral field spectroscopy over a 2.2 arcsec field of view at Keck with low spectral resolution (< 300). The instrument uses a lenslet array to sample a 2D field, and then prism and gratings to disperse the lenslet spots into individually separable spectra. The lenslet array itself is supplied from a vendor with a silicon “picture frame” for mounting on the spectrograph bench. The Lenslet Array consists of a number of lenslets arranged in an order forming a rectangular solid element. The Lenslet Array is to be fixed in the SCALES system that operate at cryogenic temperature. In this poster we show the design of the mount for fixing the Lenslet Array in the SCALES system.

Presentation type

Poster

Primary authors: Mr PRAKASH, Ajin (Indian Institute of Astrophysics); Mr KV, Govinda (IIAP); Prof. BANYAL, Ravinder K. (Indian Institute of Astrophysics); Mr VARSHNEY, Hari Mohan; Dr SETHURAM, Ramya (Indian Institute of Astrophysics); Prof. T, Sivarani (Indian Institute of Astrophysics)

Presenter: Mr PRAKASH, Ajin (Indian Institute of Astrophysics)