OPTICAL IMAGING SYSTEM

Space Applications Centre (SAC) of Indian Space Research Organization (ISRO) has developed an optical imaging system with capabilities to image in visible and near-infrared regions of the EM spectrum.

Application

Potential Applications

- Imaging during day time and twilight condition
- Scientific studies, Astronomy
- Applications requiring high intra-scene dynamic range up to 80 dB

Salient Features

- Useful under twilight as well as mid-day lighting conditions
- Sampling resolution: 2 cm at 5000 m altitude
- FOV: 0.46° * 0.46°
- 200 mm RC telescope
- Operating wavelength range: Vis-VNIR
- Frame rate: 30 Hz (rolling shutter)
- Programmable exposure period with focusing mechanism
- Camera head control, video data acquisition, NUC correction, and image visualization s/w with intra-scene dynamic range adjustment for 2K x 2K Si based focal plane array
- Sturdy mechanical structure
- Weight: <10 kg

Possible Customisations

- Multi-band (with frequency selective beam splitter or filter wheel)
- Inclusion of infrared spectrum, target imaging using suitable focal plane array
- Frame rate enhancement up to 100 frames/s
- Temperature compensated automatic focus adjustment
- RGB color imagery with incorporation of color data processing pipe
- Night time imaging with external illuminator

SAC Technologies

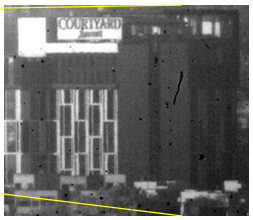
Avg: 50000 photons

Avg: 15 photons
(Locally processed with digital filter)

Avg: 50000 photons

Avg: 50 photons

Courtyard Marriot Hotel at 22 Km



Zoomed image

Technology Transfer

SAC/ISRO, offers to transfer this technology of the **Optical Imaging System developed** developed by SAC to industries in India with adequate experience and facilities. Enterprises interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

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