Contribution ID: **20** Type: **Oral presentation (20 minute)**

Image Persistence Flagging for SPHEREx

Wednesday, 13 March 2024 14:00 (25 minutes)

Image persistence in HAWAII-2RG HgCdTe detectors has been observed by multiple parties. Also known as latent signal, this effect occurs when sensor images following an illumination show a decayed form of the illuminated image even though the source has been removed and the detector has been reset. Using data from an engineering grade detector delivered for SPHEREx testing illuminated with a wide range of fluxes, we demonstrate an interpretation and a working model from which the decaying signal can be estimated, providing the ability to flag pixels subject to excess persistence current beyond a user-defined threshold. Applying this model on a pixel-by-pixel basis may provide the framework for subtracting the offending persistent signal, thus mitigating the effect.

contribution subject matter

CMOS sensors

Keywords for your contribution subject matter (this will assist SOC in accurately characterizing your contribution)

persistence current, latent imaging, flagging, HAWAII-2RG, HgCdTe

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