Contribution ID: **40** Type: **Poster presentation (90 second oral summary, 90 minute poster session & free presentation times over 3x 40m coffee breaks)**

'Weather' in LSST Camera: Characterizing Turbulence as seen in Flat Illuminated Images

Tuesday, 12 March 2024 14:30 (1h 30m)

During the latest electro-optical testing runs of the LSST Camera, a long-range (>20 pixels) correlation was discovered in flat pair images that was not seen in previous testing runs. As we tried to determine the source, we noticed a turbulence pattern in difference images similar to that of atmospheric weather effects on-sky data. This pattern changes temporally and can be seen changing at the detector and focal plane level. There is strong evidence that this pattern is caused by the air purge system within the camera as changing the fan speed changes the shape and strength of the pattern. This pattern could also only be visible due to our use of a projector to illuminate the focal plane for the production of flat-field images and would not appear if we used a flat screen instead. We characterize this pattern using correlation functions and power spectra under various conditions and simulate what effect it will have on on-sky data.

contribution subject matter

(Other)

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

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