

Evaluating OCO-2 & OCO-3 Retrospective Calibration Using Dark, Lamp, and Science Spectra

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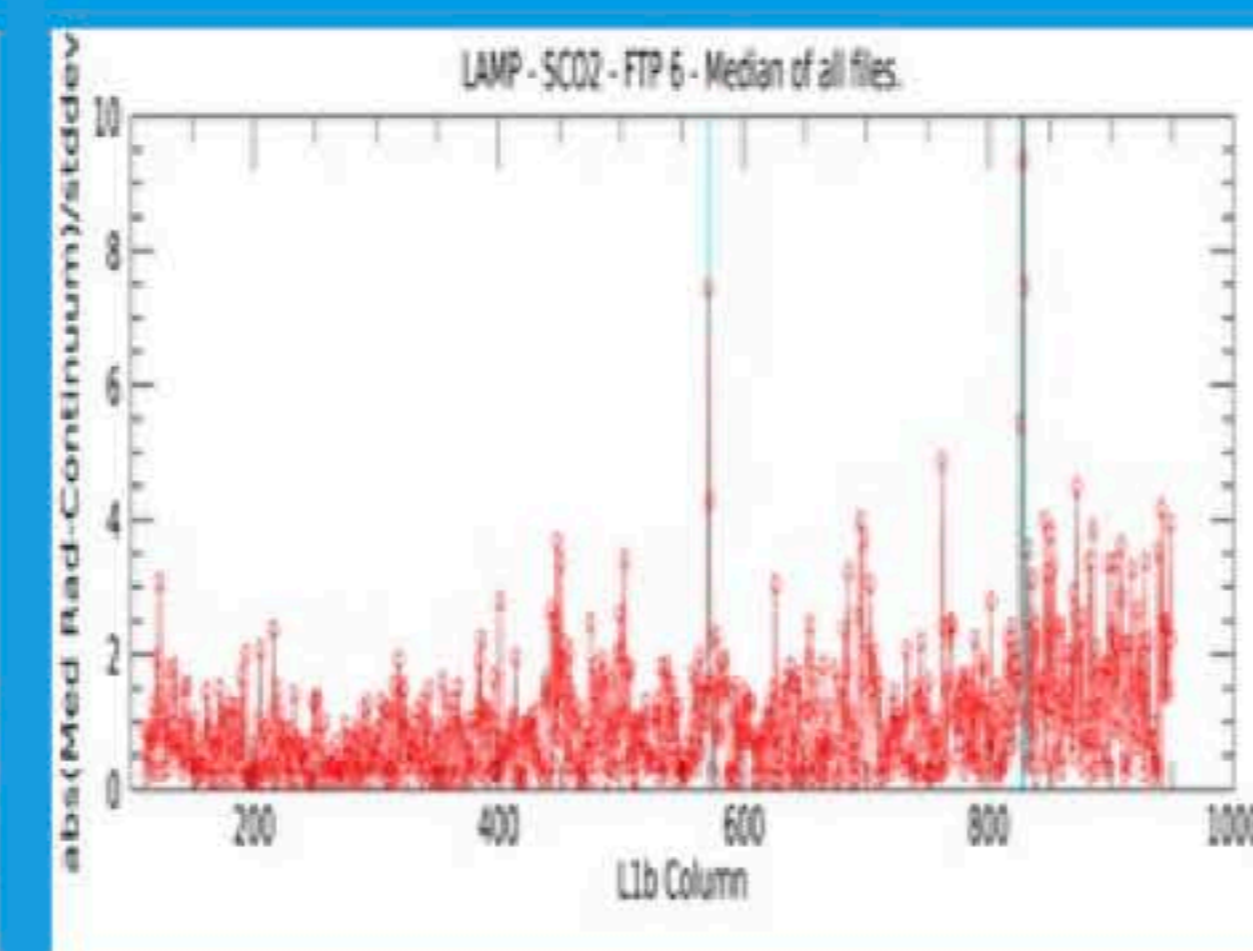
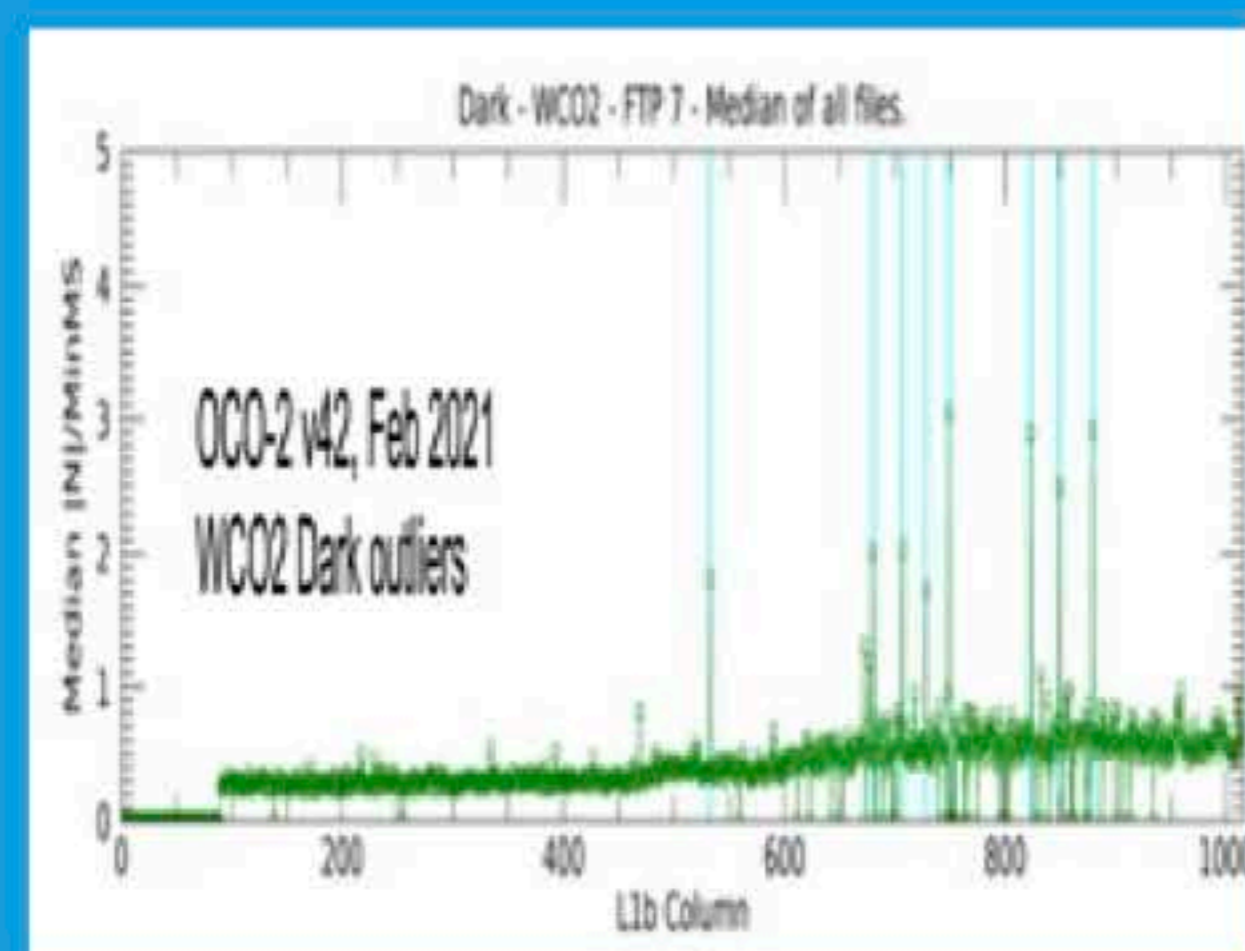
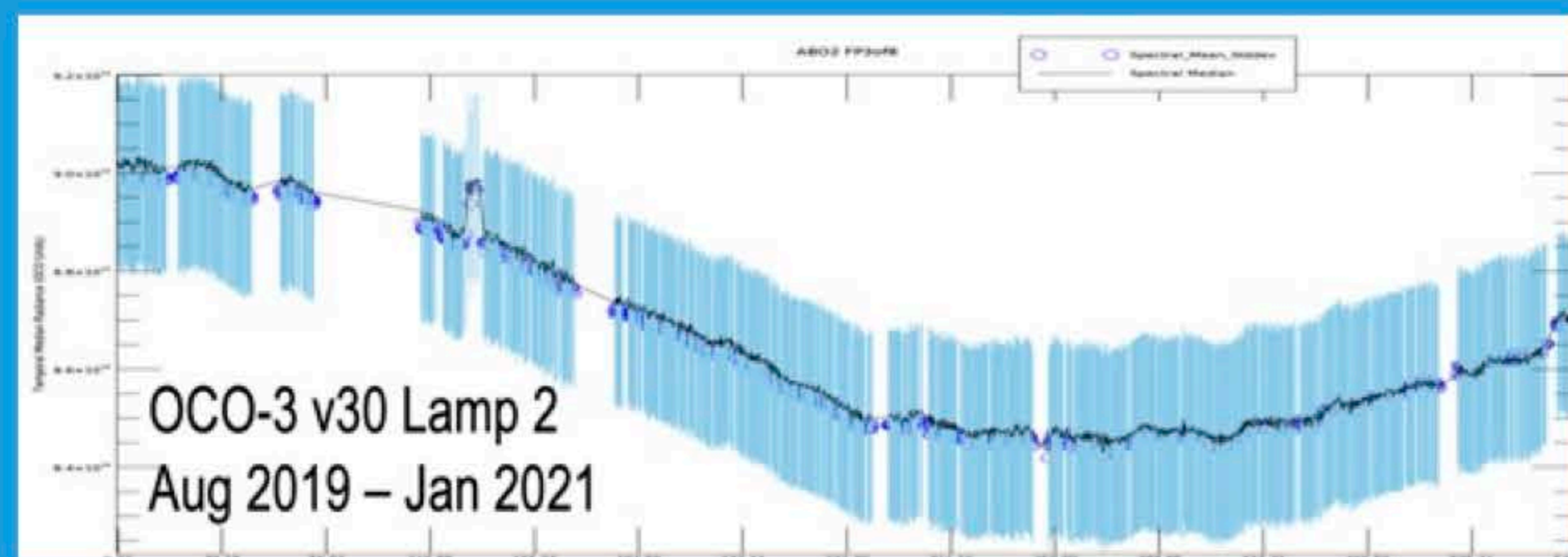
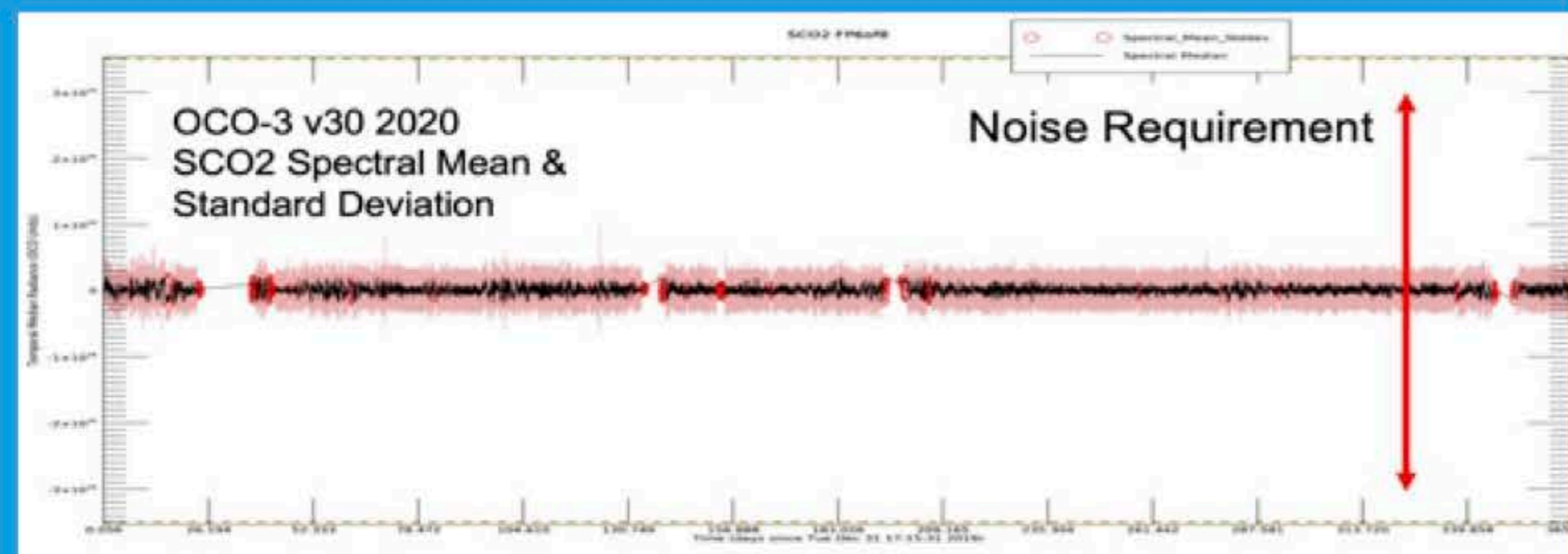


Purpose

- Review 2-4 % of record before production... better than retracting public data!
- Most common response: expand detector outlier list
- Understand retrieval sensitivity to calibration

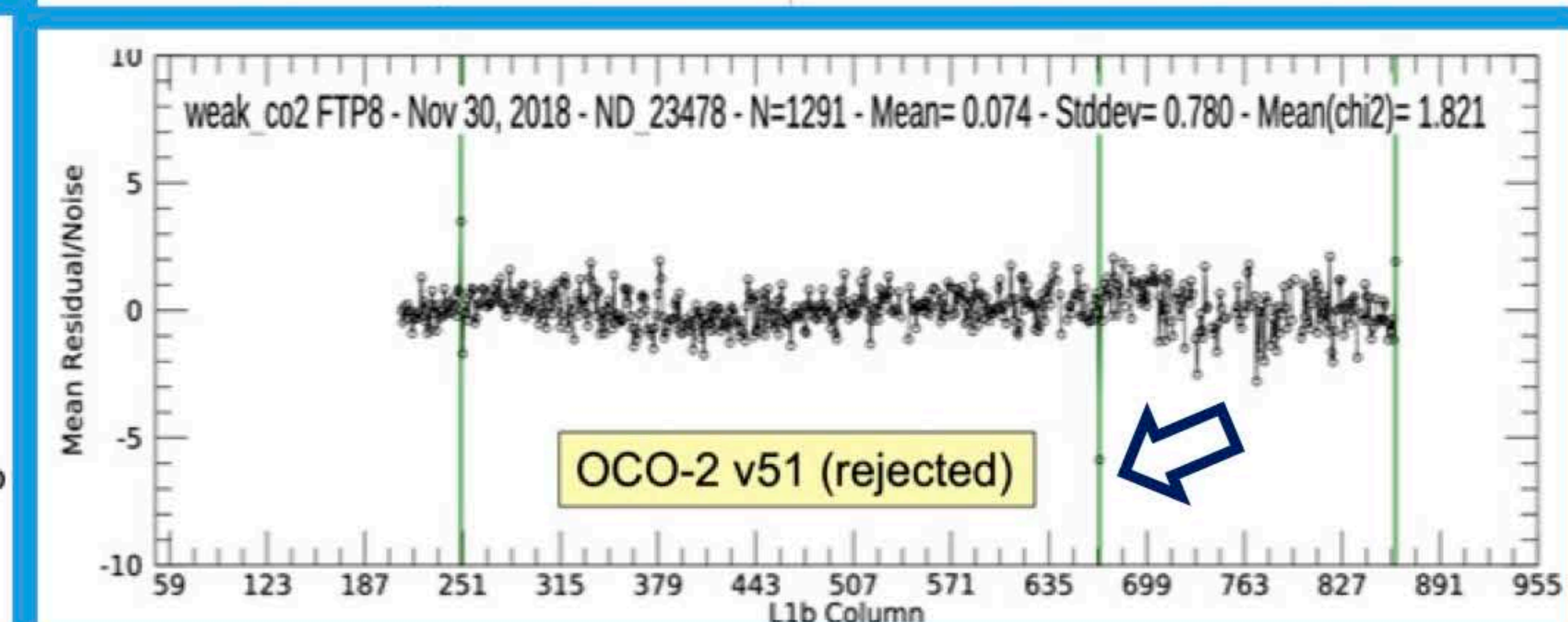
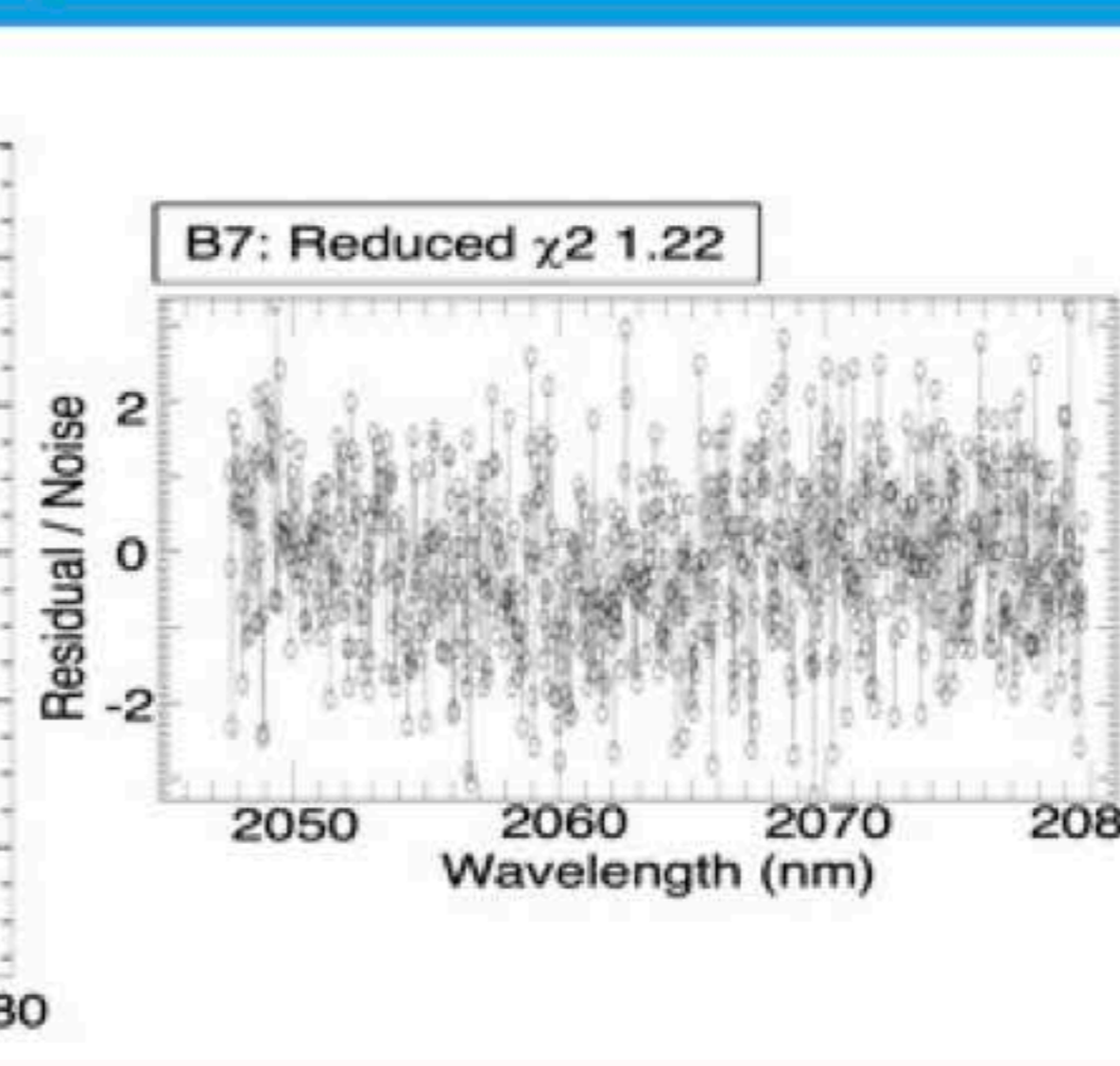
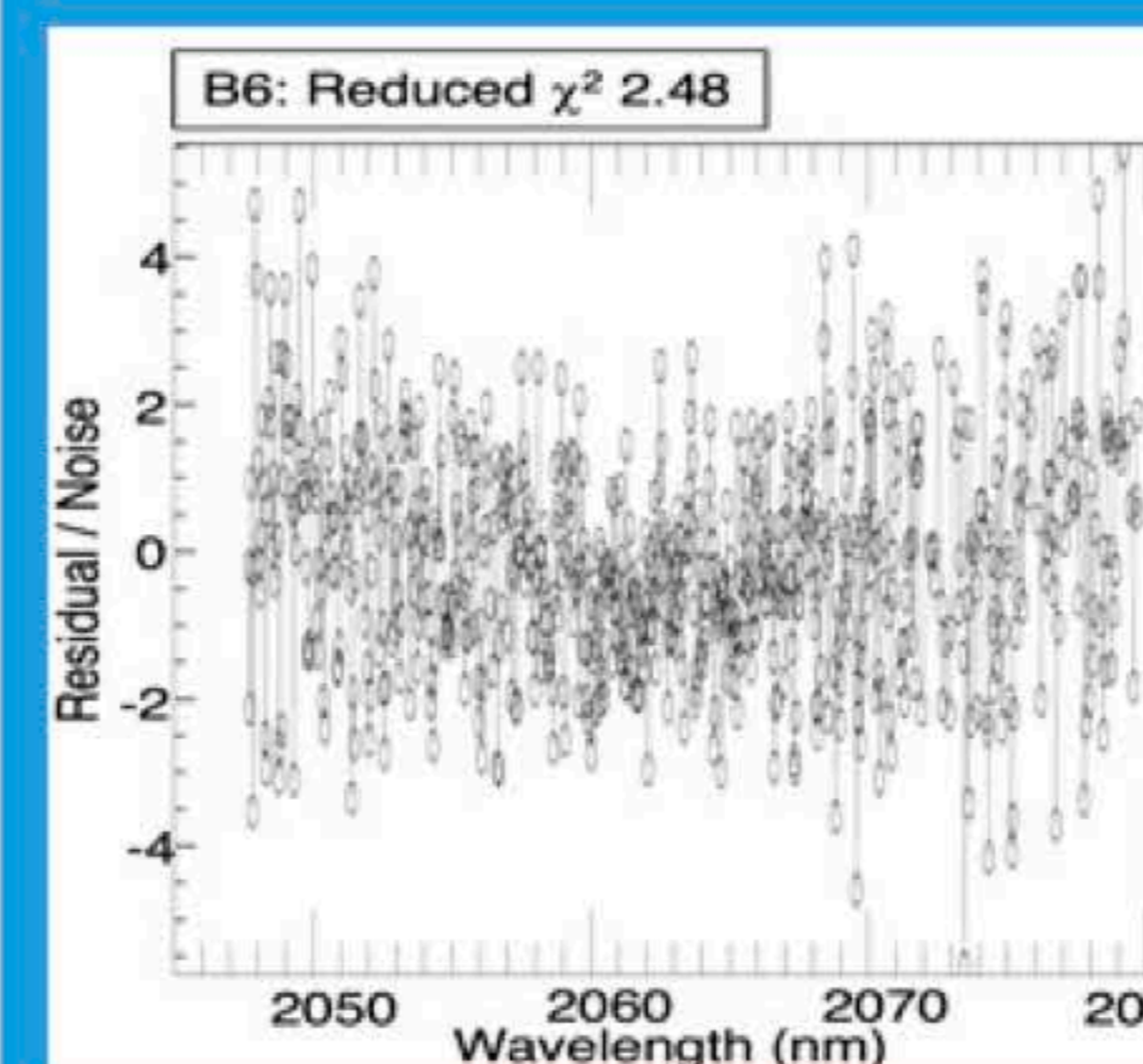
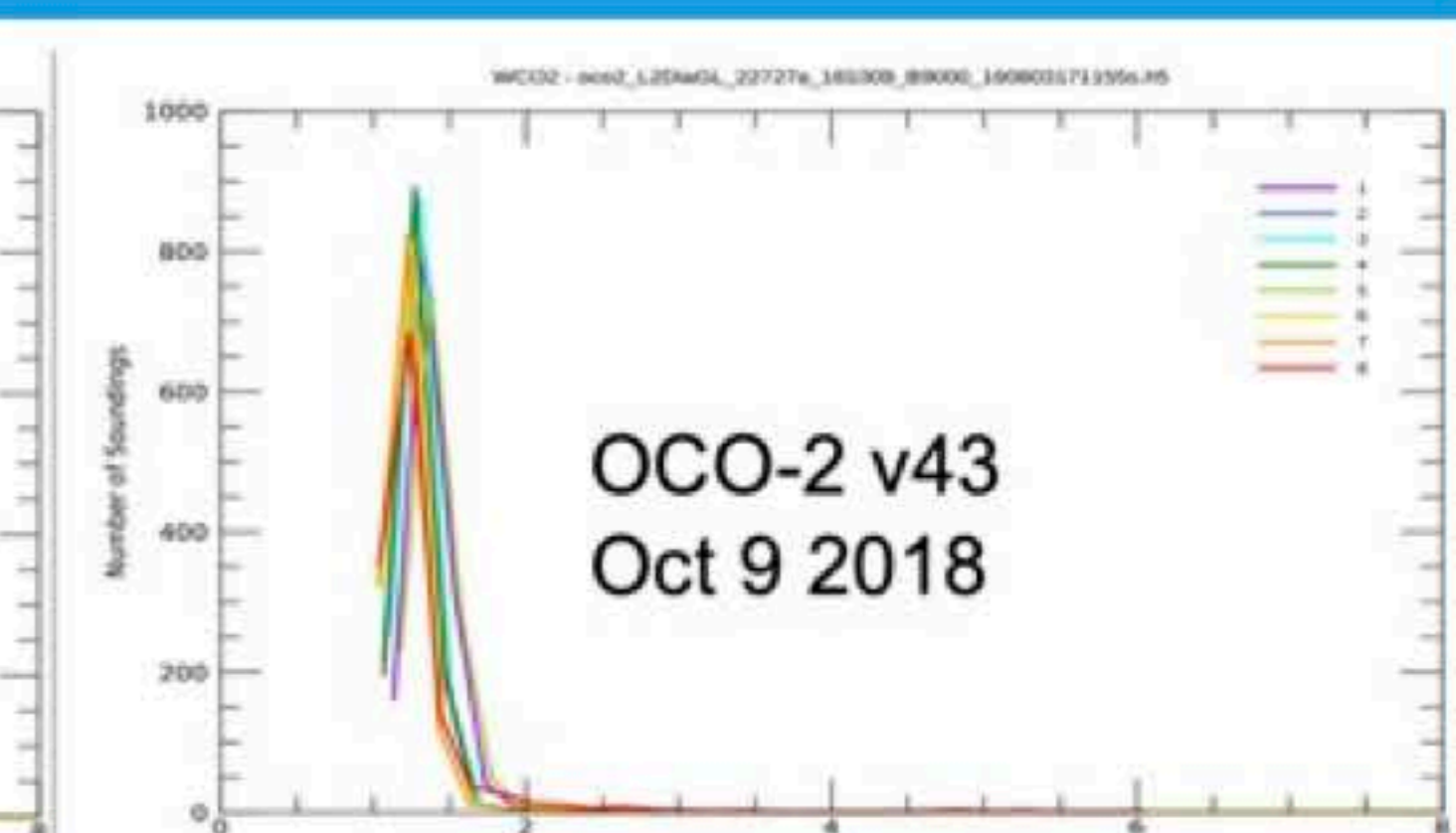
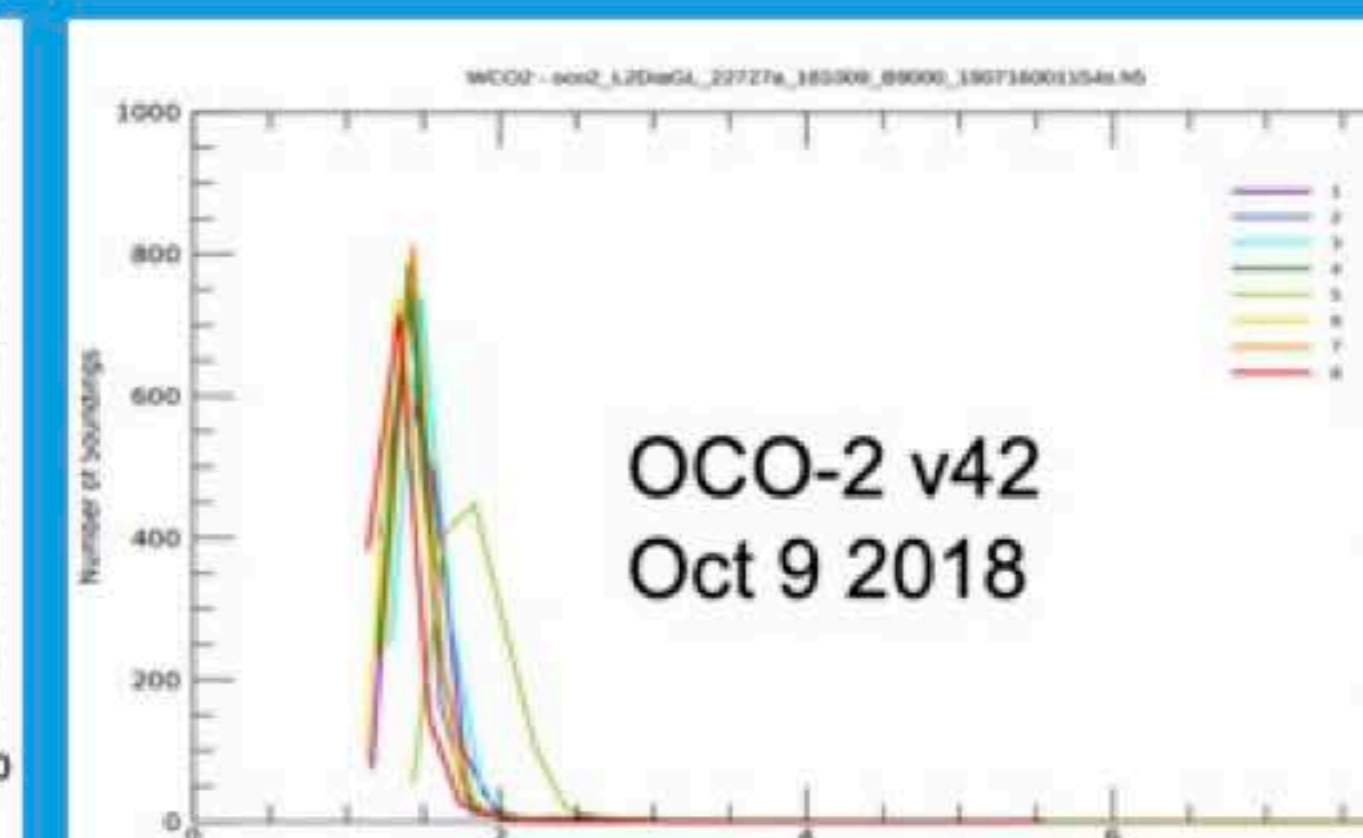
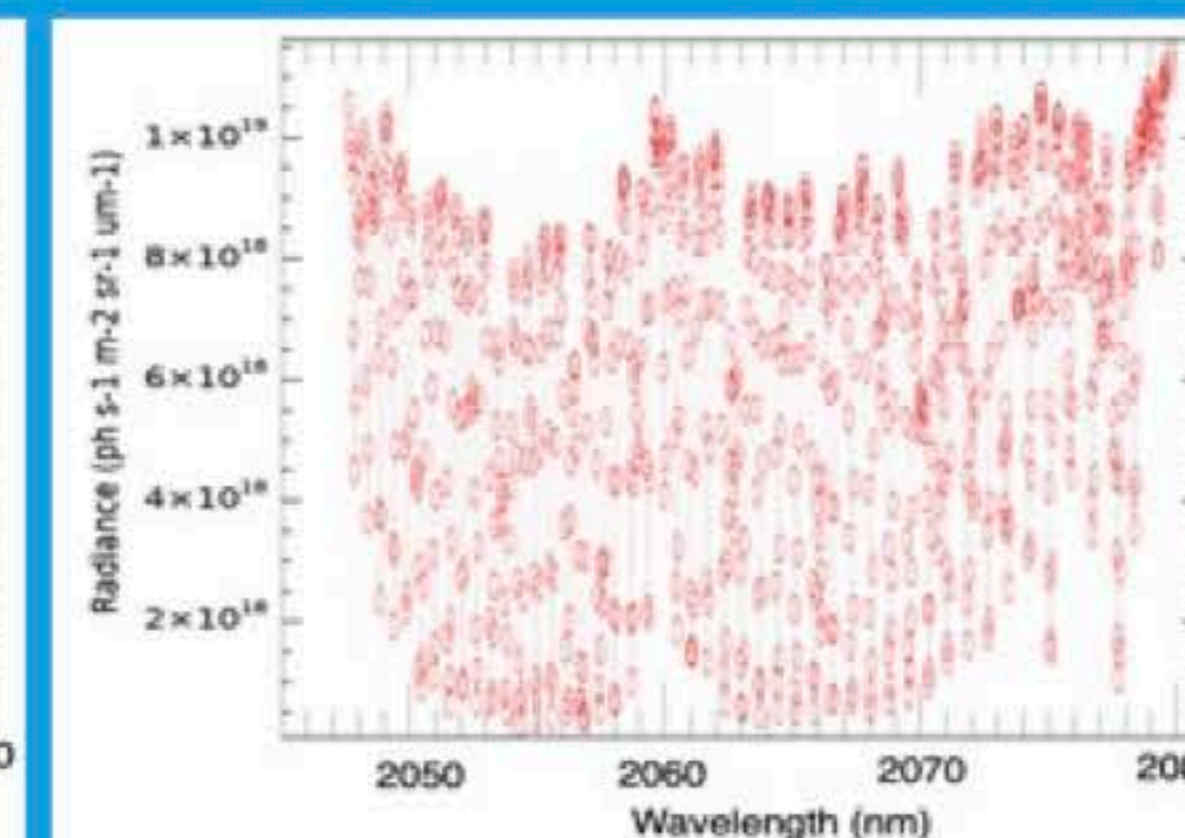
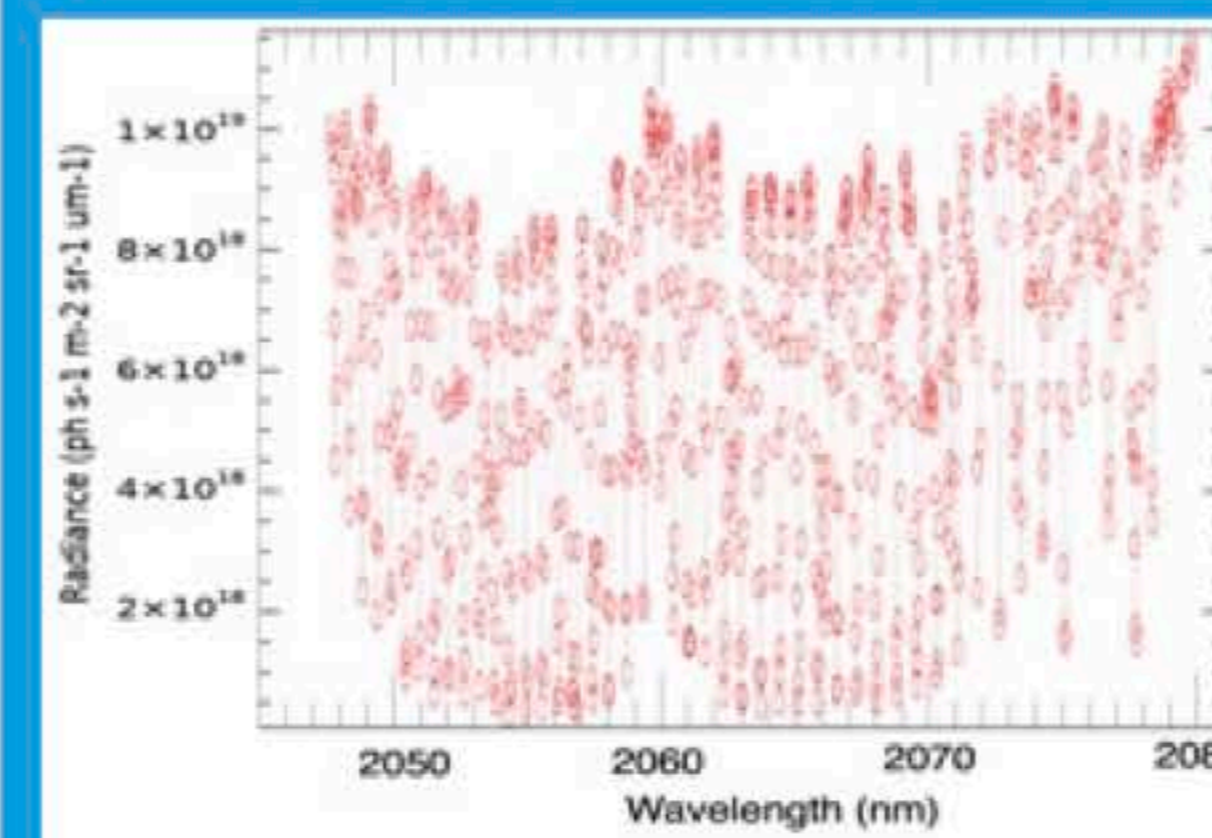
Dark & Lamp Calibration

- Continuous time trend
- No large spectral outliers



Science Spectra, Residuals, & Goodness of Fit

- Difficult to find errors in calibration coefficients or Level 1B spectra, ACOS L2 Full Physics can assess all inputs together
- Mean of abs(Measured-Modeled) should be $< 5 \times$ Uncertainty
- Dark biases (constant) will be largest for dimmest scenes
- Gain errors (proportional to radiance) largest for brightest scenes
- χ^2 should be small and consistent among spatial footprints



* RR will be Presenting in Gather from 10:30-11:30 Tue Jul 12 JST (18:30-19:30 Mon Jul 11 PST)