

# Using AIRS:CrIS SNOs to compare SDR product with and without Polarization Correction

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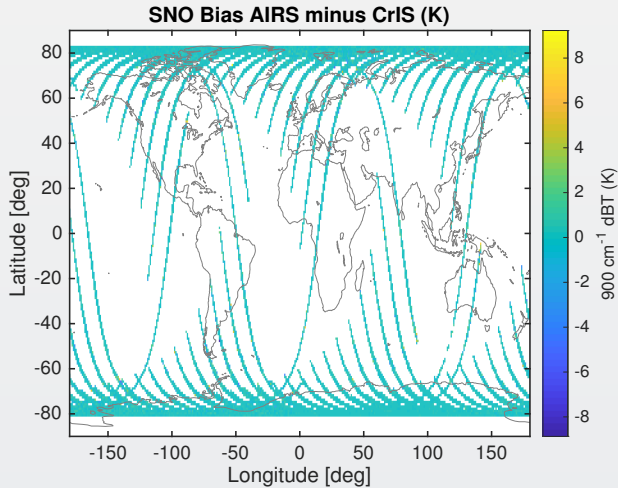
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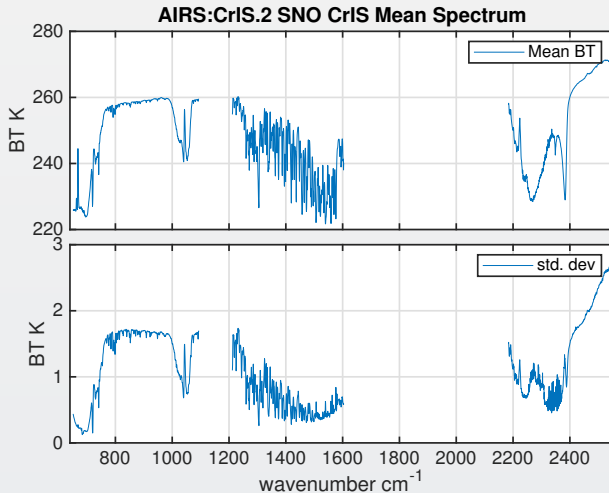
# Overview

- Use closely matched observations between AIRS and J1-CrIS to determine differences due to polarization correction applied to CrIS.
- NOAA ADL SDR data are available for period December 2018 to January 2019 (2 months), with and without polarization correction applied.
- AIRS L1C data are available for the same time period.
- Simultaneous near over-pass observational pairs are obtained with separations between AIRS and CrIS FOVs of less than 10 minutes and 8 km.
- SNOs for AIRS FOVs 43:48 and CrIS FORs 15 and 16 are used.
- Approx. 242,000 SNO pairs are obtained.

# Distribution Map

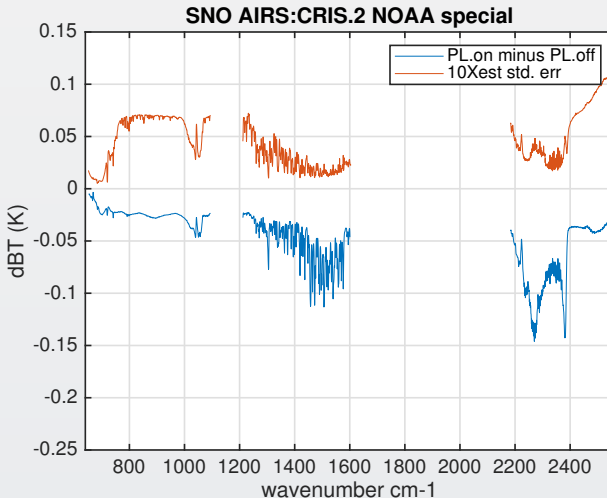


# Mean Spectrum and Sample Std.Dev



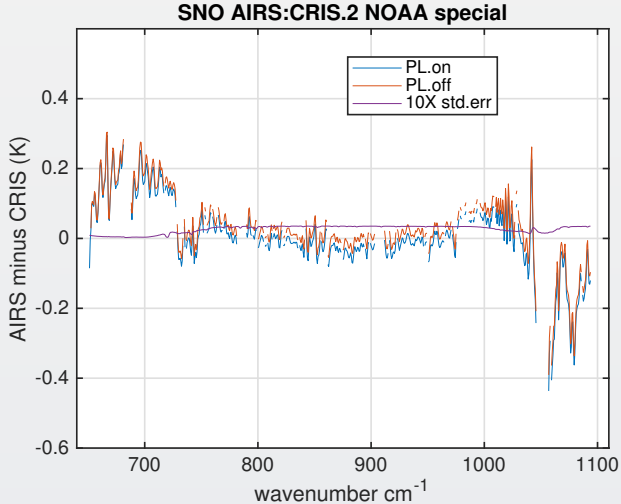
# Magnitude of the polarization correction

- Using AIRS as the transfer standard, take the double difference: *(AIRS minus CrIS with correction) minus (AIRS minus CrIS without correction)*



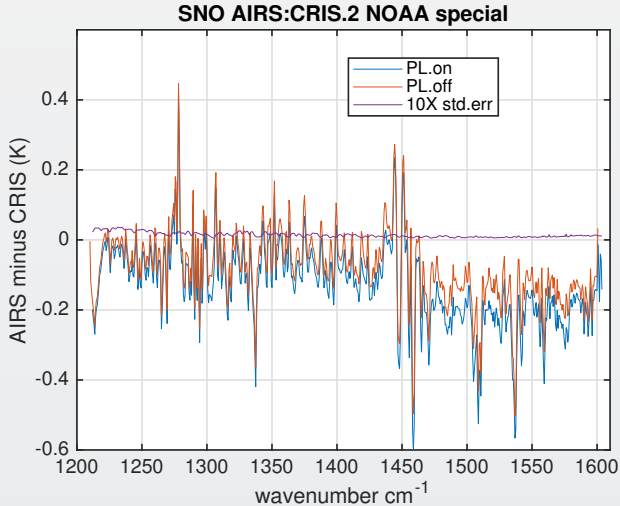
# Impact of the polarization correction on the bias with AIRS

- LW band:



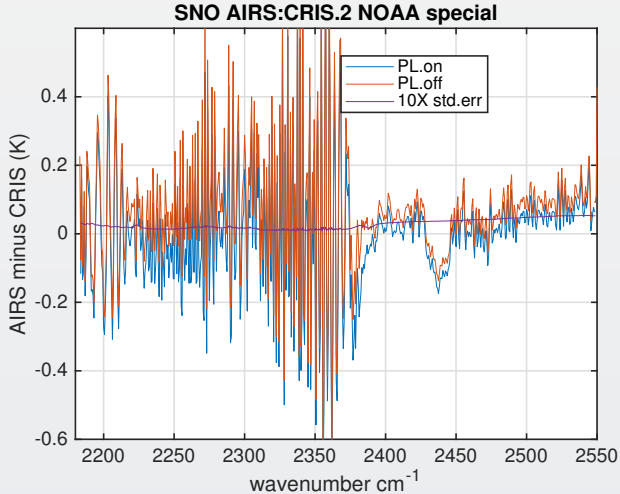
# Impact of the polarization correction on the bias with AIRS

- MW band:



# Impact of the polarization correction on the bias with AIRS

- SW band:





# Discussion

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