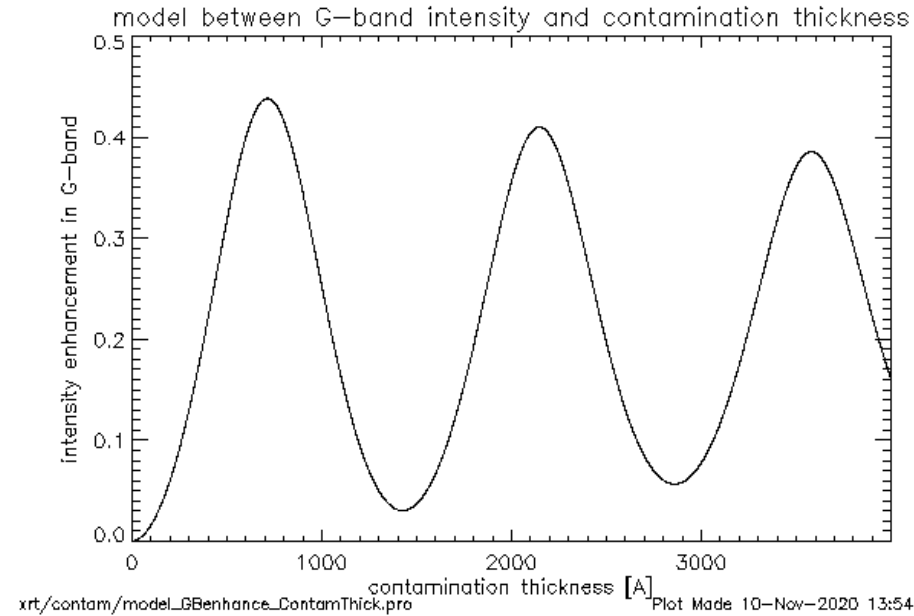


XRT Contamination Thickness Database

Keiji Yoshimura

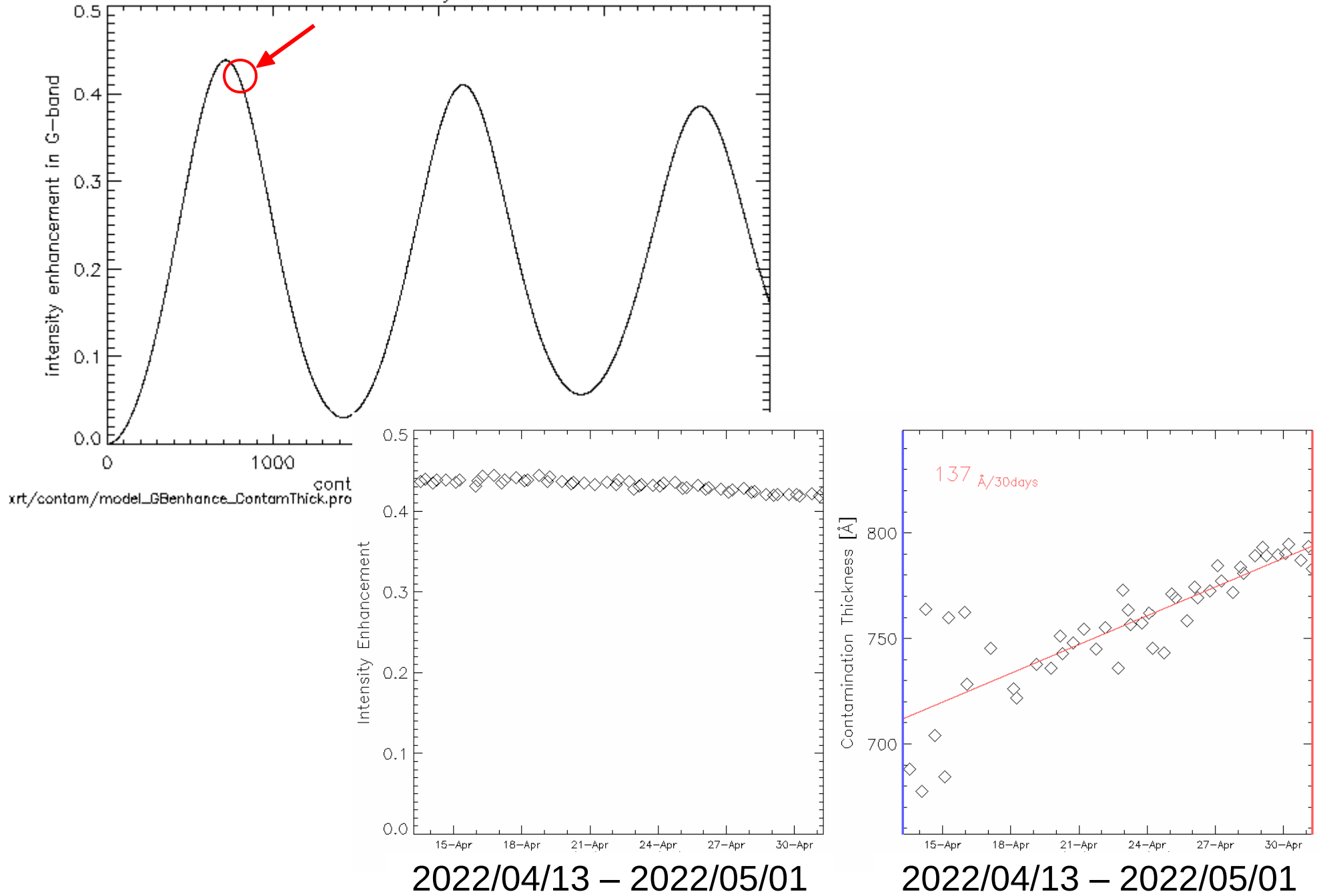
Database of Contaminant Layer Thickness on XRT CCD

We had been able to derive the thickness of the contaminant layer from the enhancement of the G-band intensity.



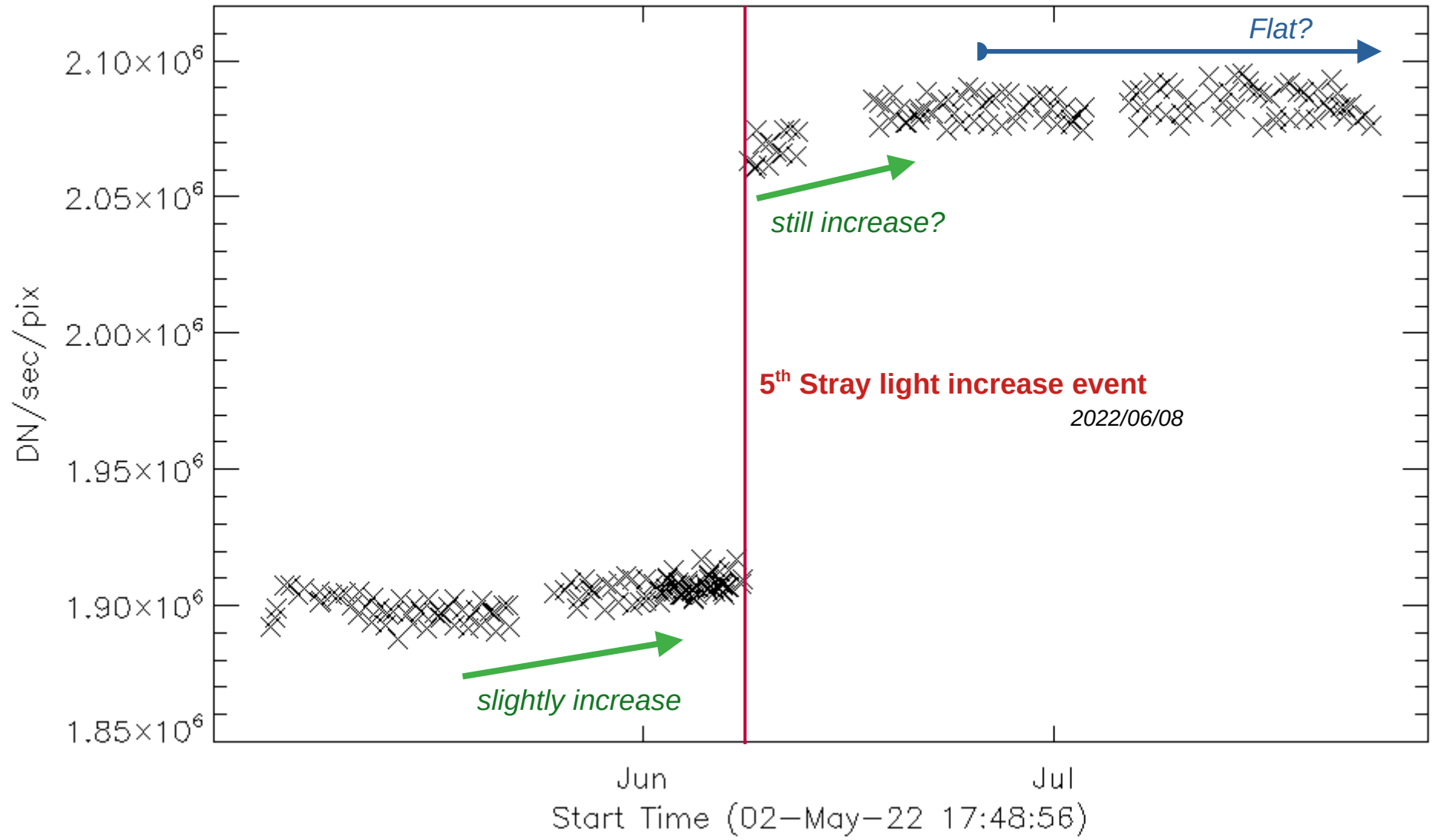
This method does not look applicable to the data after around the 5th stray light increase event (2022/06/08).

model between G-band intensity and contamination thickness



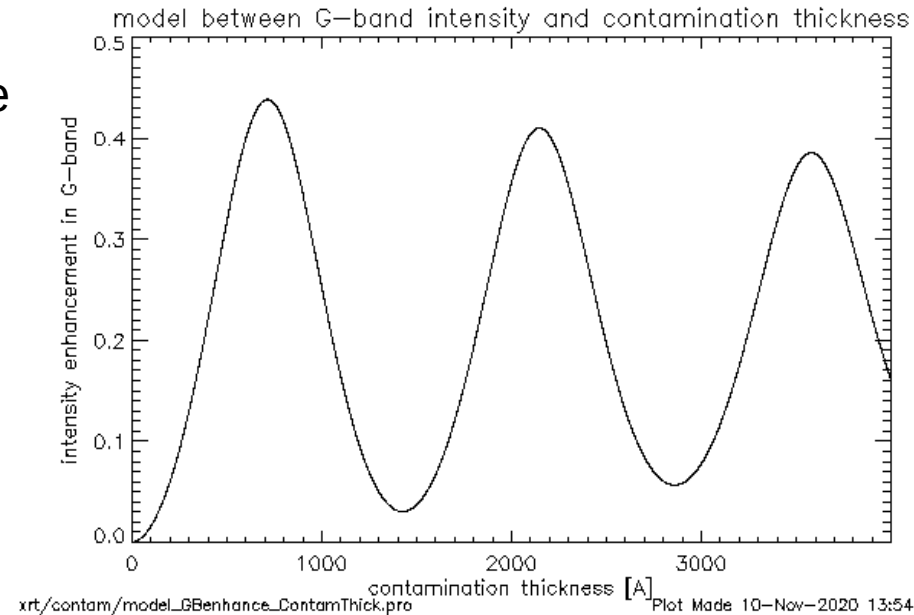
G-band intensity should decrease with time

G-band Intensity



Database of Contaminant Layer Thickness on XRT CCD

We could derive the thickness of the contaminant layer from the enhancement of the G-band intensity.

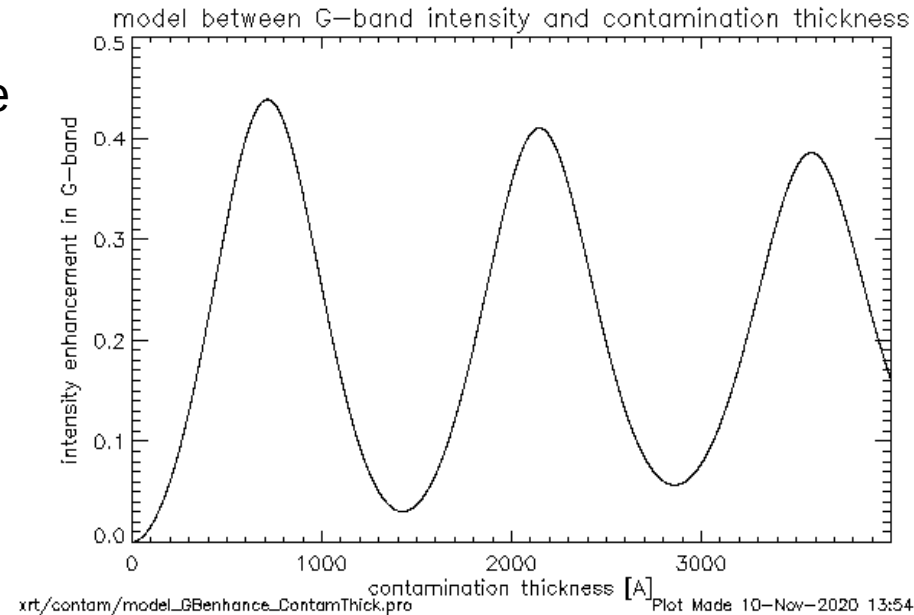


This method does not look applicable to the data after around the 5th stray light increase event (2022/06/08).

→ I tried to find another method using X-ray data, with no success so far...

Database of Contaminant Layer Thickness on XRT CCD

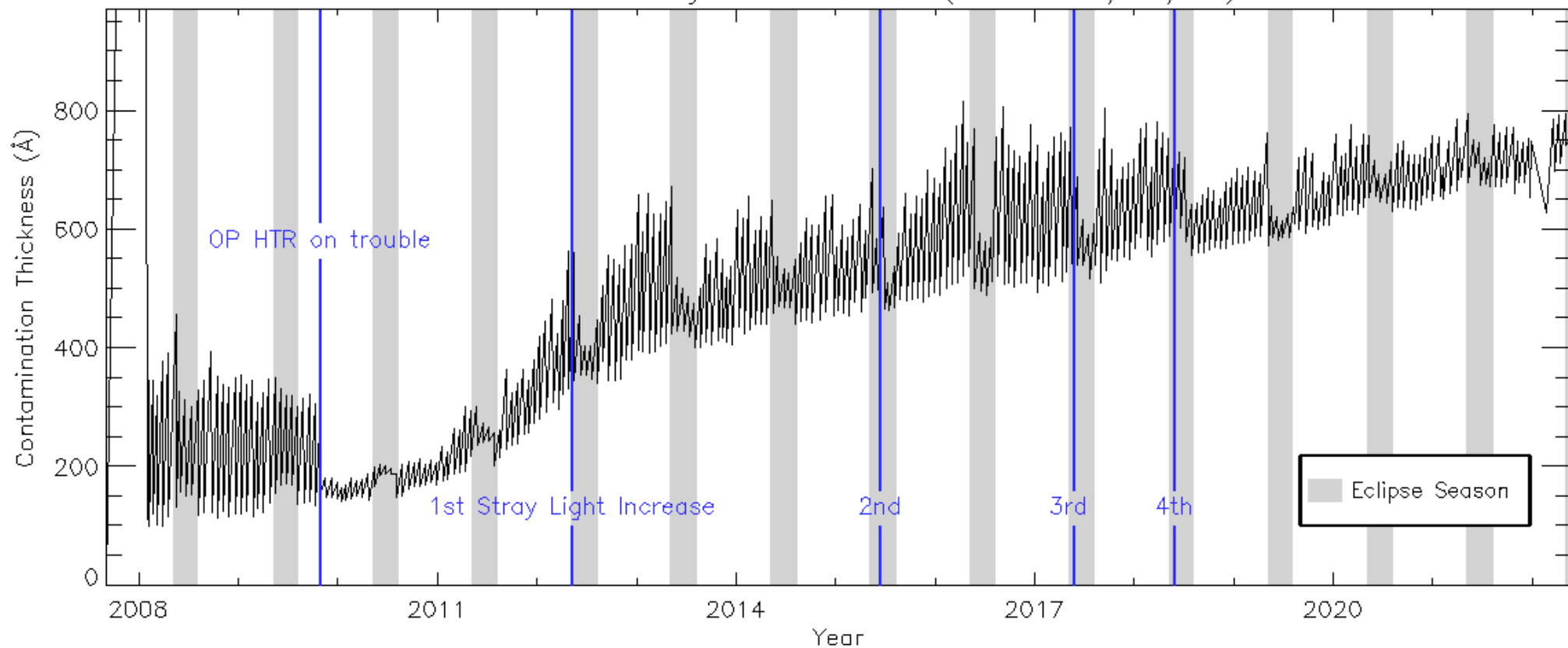
We could derive the thickness of the contaminant layer from the enhancement of the G-band intensity.



This method does not look applicable to the data after around the 5th stray light increase event (2022/06/08).

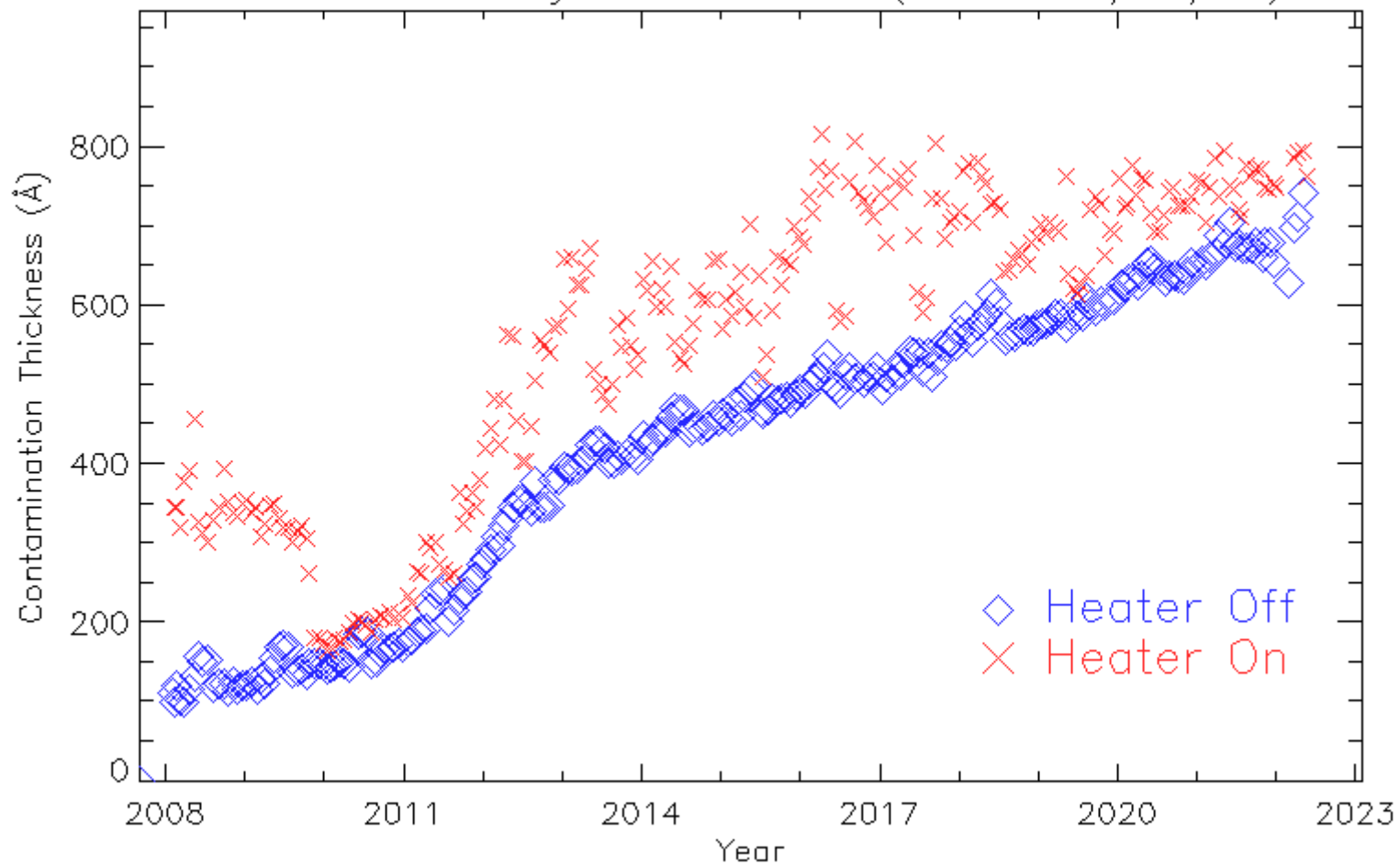
- I tried to find another method using X-ray data, with no success so far...
- *use “extrapolation” to guess the thickness after 2022/05/22*

Contamination layer on XRT CCD (until 2022/05/25)

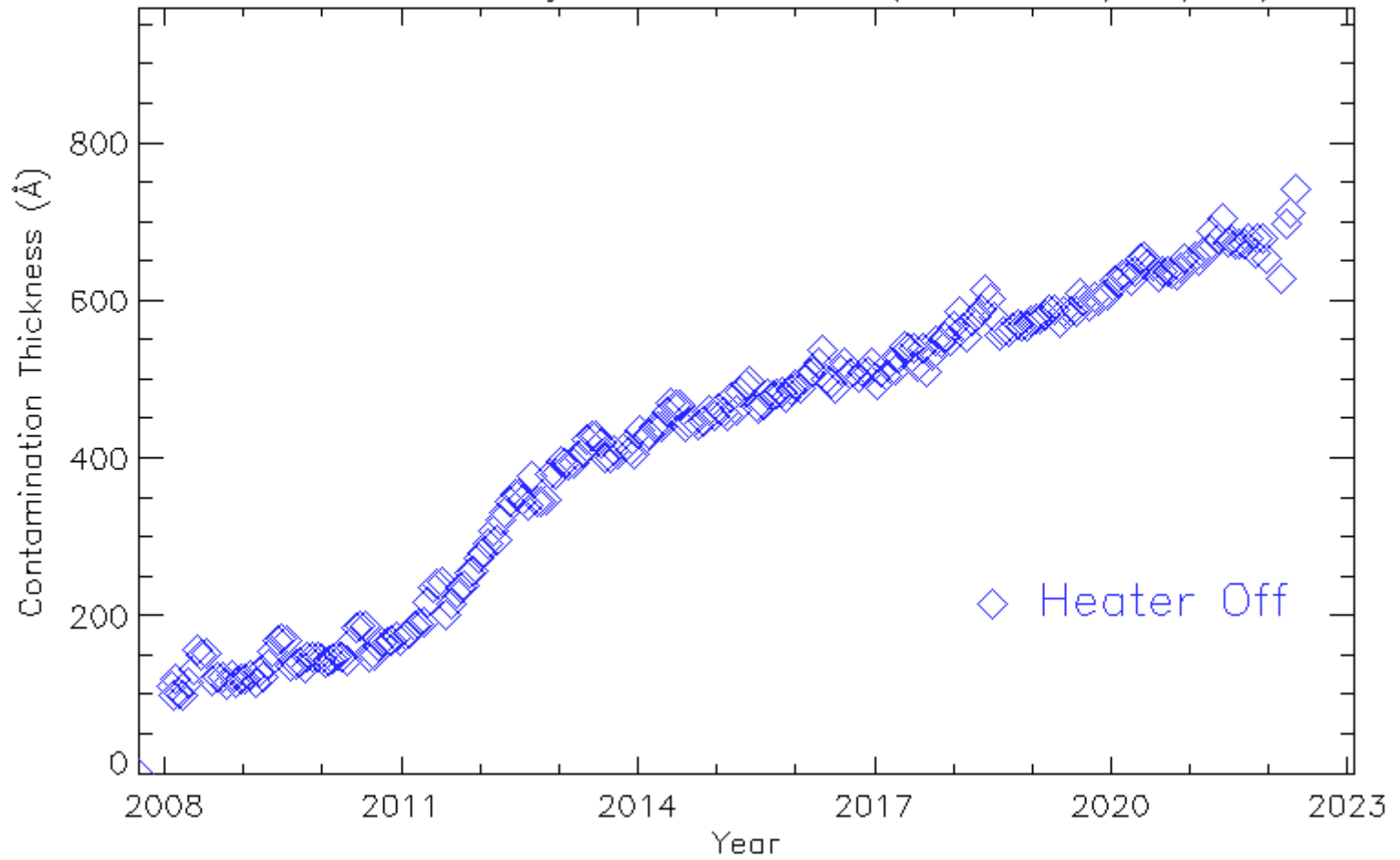


Before 5th stray light increase

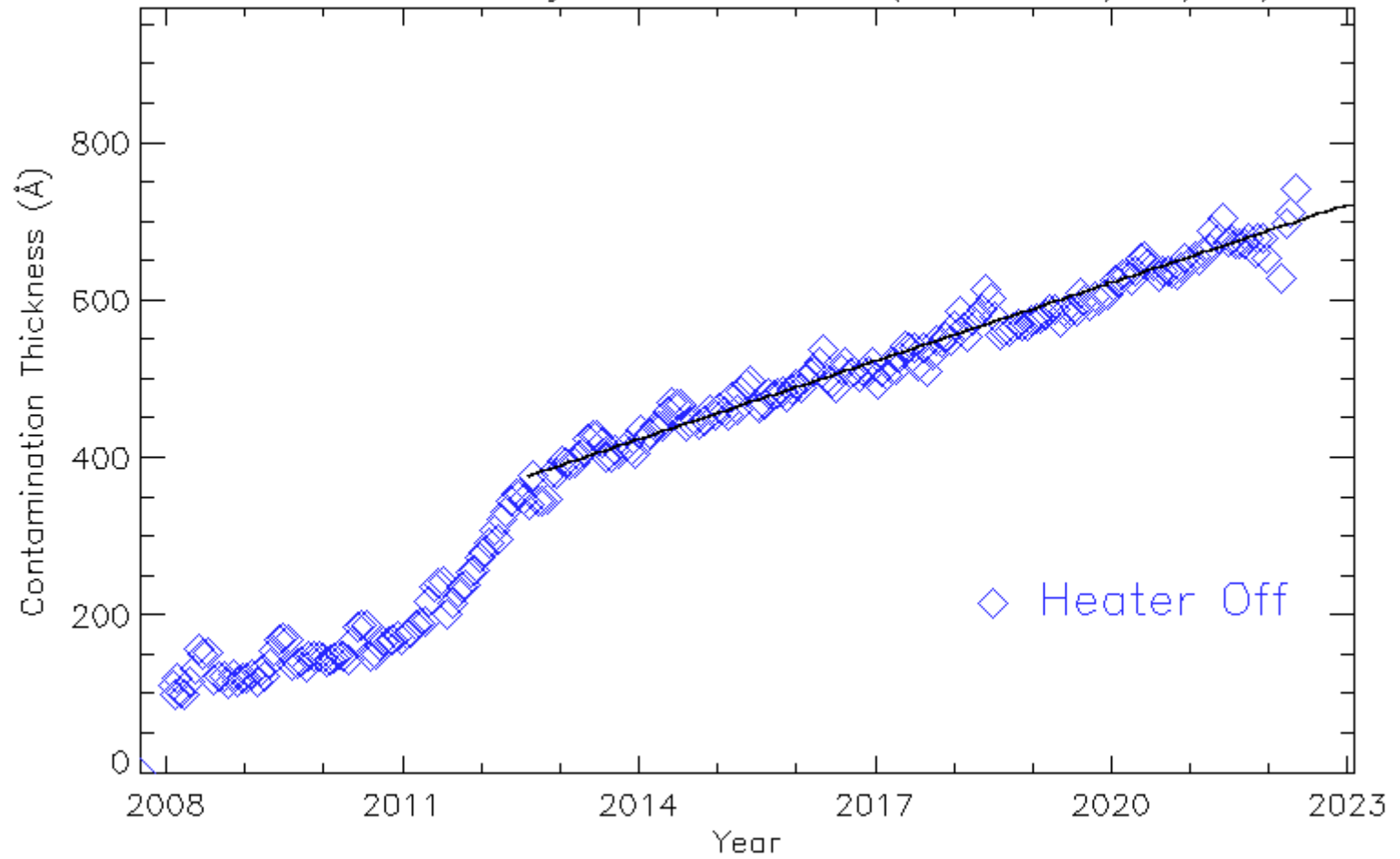
Contamination layer on XRT CCD (until 2022/05/25)



Contamination layer on XRT CCD (until 2022/05/25)



Contamination layer on XRT CCD (until 2022/05/25)

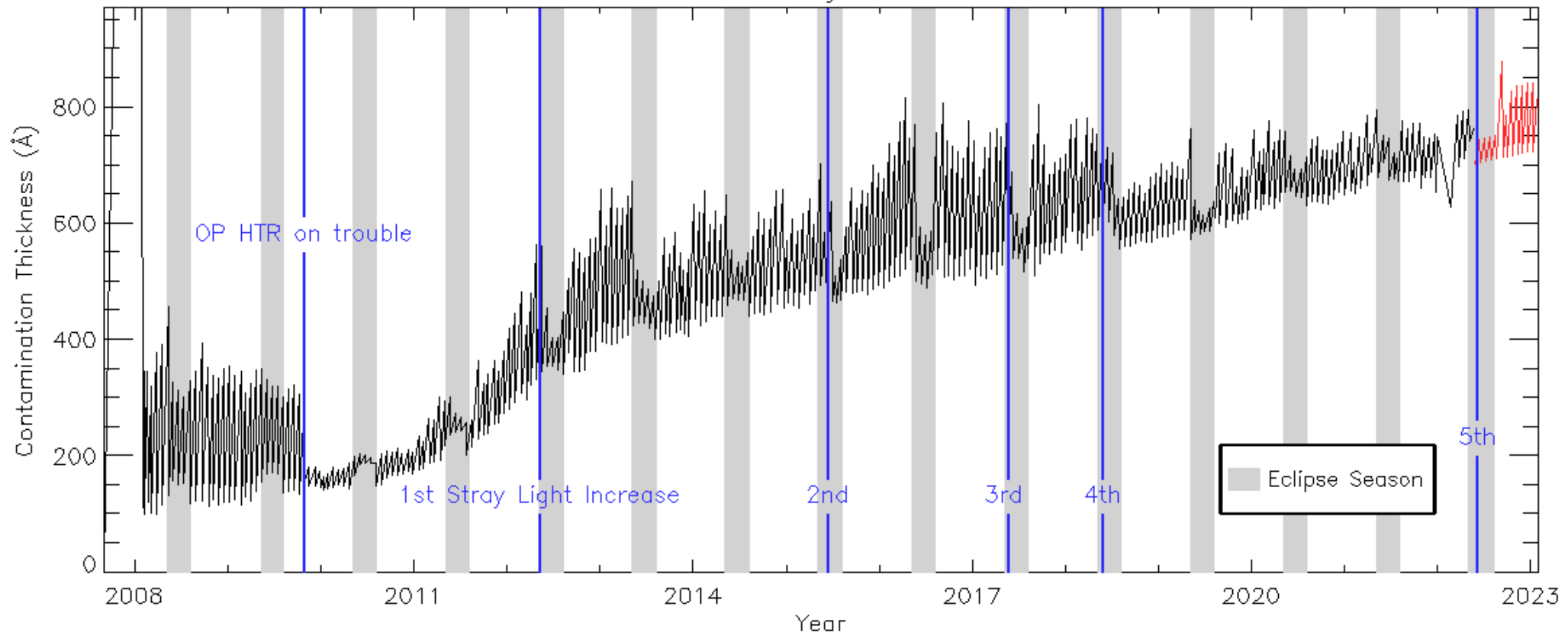


Thickness calculation after 2022/05/22

Increase of “base” : *linear extrapolation*

Accumulation rate : *6.7A/day (non-eclipse season)*
2.3A/day (eclipse season)

Contamination layer on XRT CCD

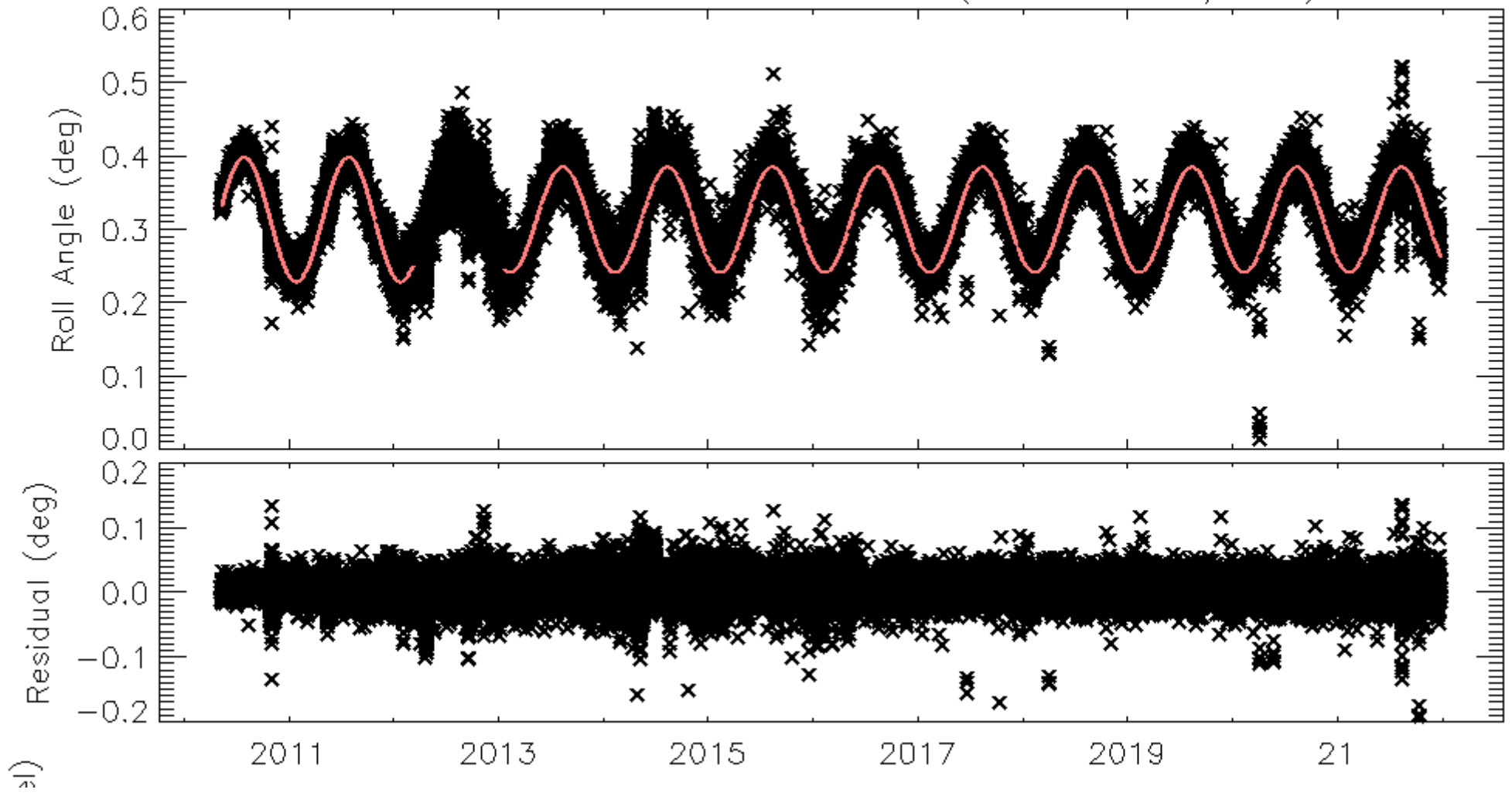


as of 2023/02

XRT Roll Angle Database

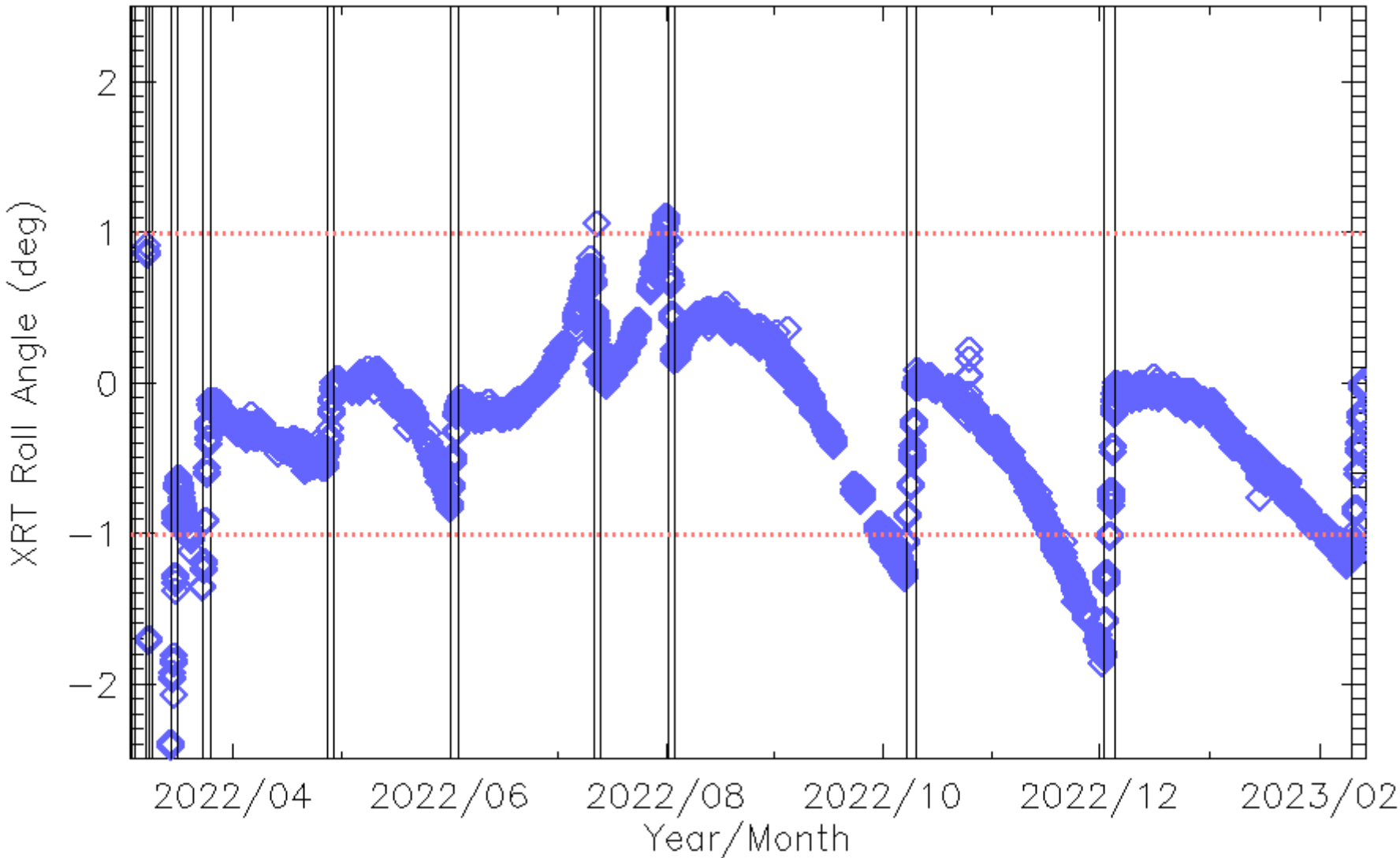
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Results from Cross Calibration (XRT and AIA/335)



Before Roll Angle Anomaly

XRT QL roll angle monitor



The black vertical lines show the changes of the drift rate

Database of XRT roll angle

- one entry per one day (basically)
- created through the comparison between XRT and AIA (335A)
- updated when lev-0 data arrives at MSU
- distributed through the SSWDB
- read by *xrt_rollangle.pro*
- found at `$SSWDB/hinode/xrt/xrt_msu_coalign/xrt_rollangle_db.geny`