# RHESSI update July 2016

15th RHESSI workshop

July27, 2015

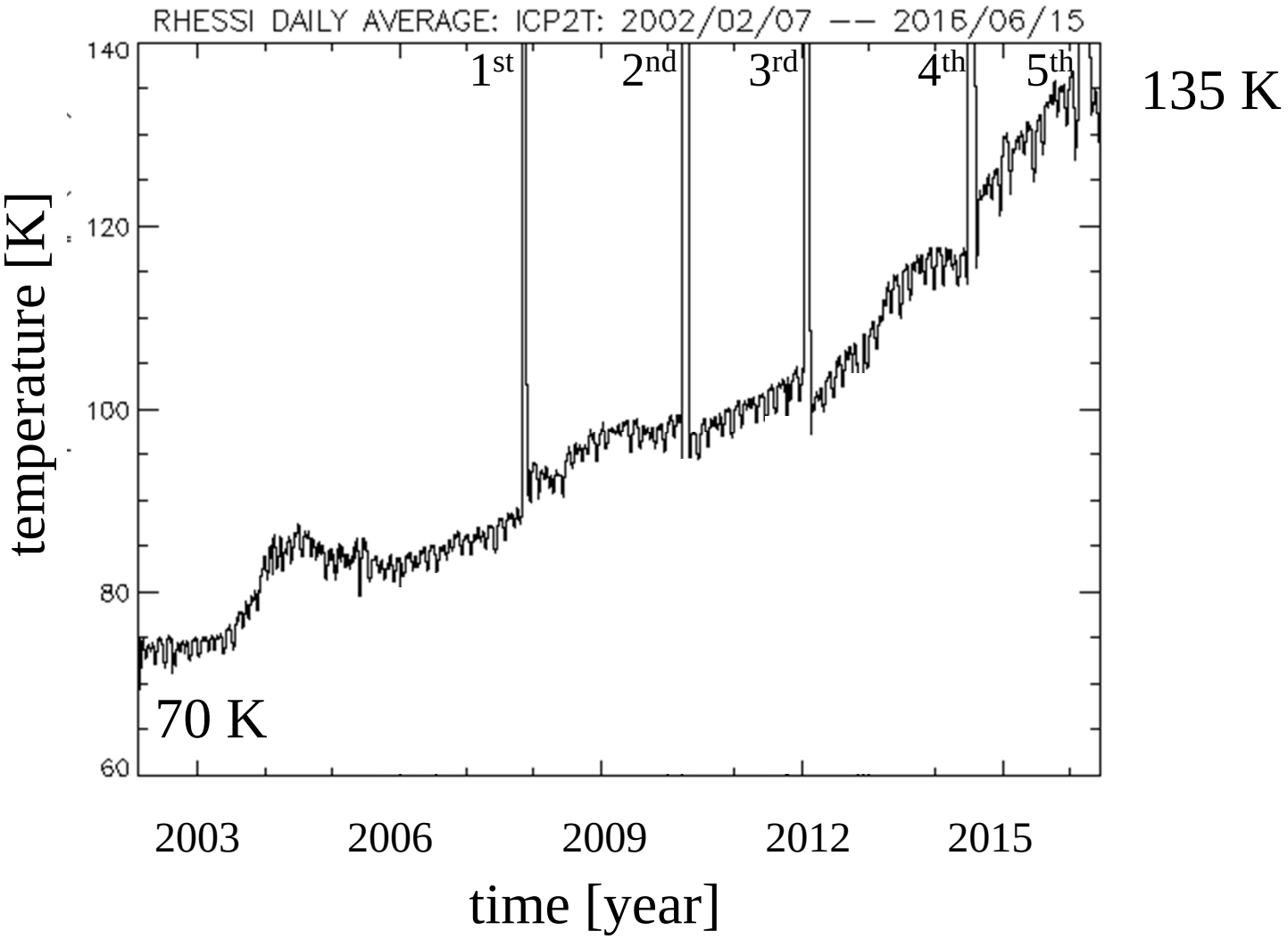
Graz

# 5th RHESSI anneal successful

http://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/RHESSI_has_resumed_operations

| det | Resolution [arcsec] | Segmentation? | Lowest energy |
|---|---|---|---|
| 1 | 2 | yes | 3 keV |
| 2 | 4 | no | ~20 keV |
| 3 | 7 | yes | 3 keV |
| 4 | 12 | no | ~15 keV |
| 5 | 20 | no | ~20 keV |
| 6 | 35 | no | ~20 keV |
| 7 | 61 | no | ~20 keV |
| 8 | 106 | yes | 3 keV |
| 9 | 183 | yes | 3 keV |

# Detector temperature is increasing

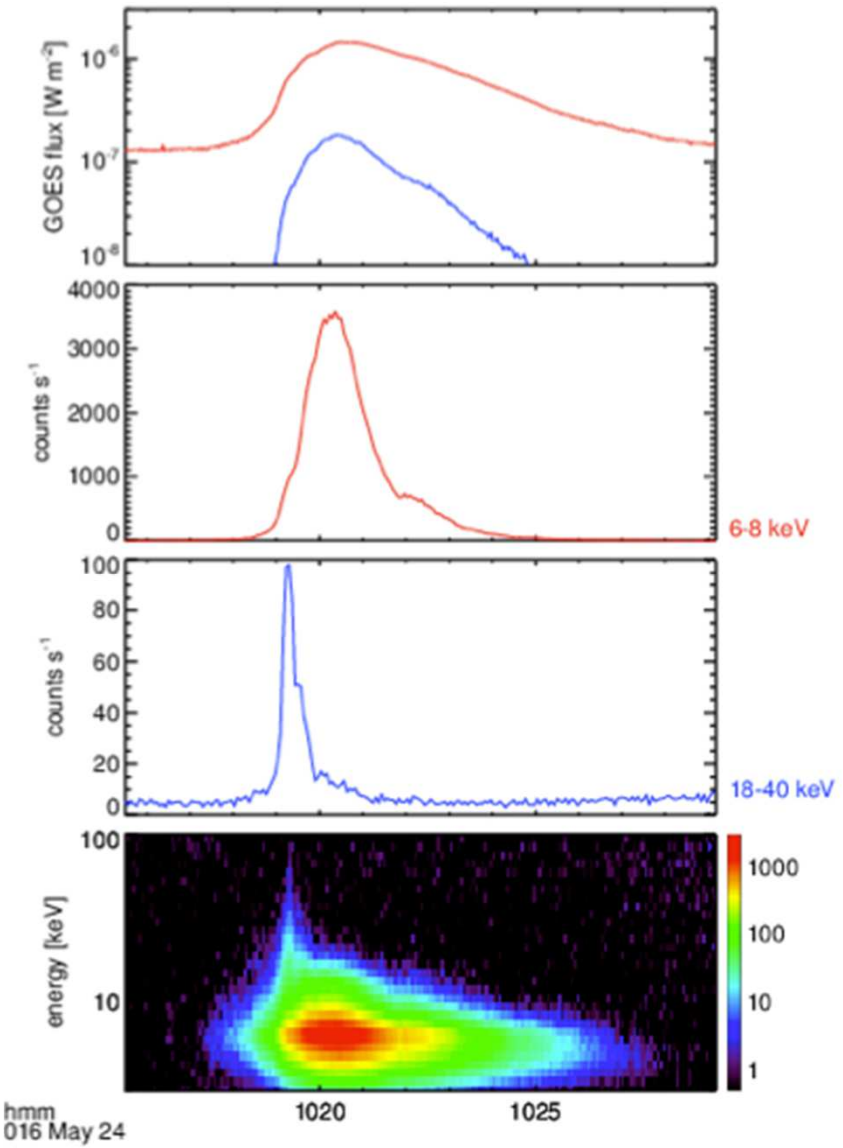


# New operation modes under evaluation

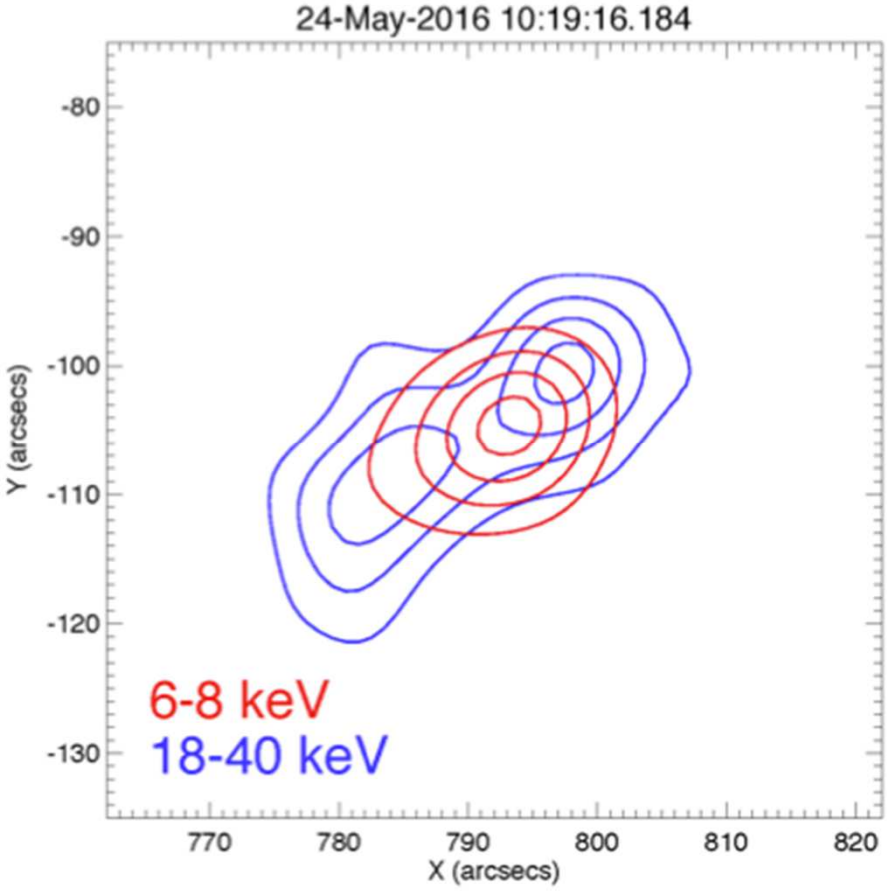
- Normal operation: only det 3 & 8 (7” and 108”)
- High flare activity (>M5 or so): Turn other detectors (temperature increase typically around ~0.2 K/day)
- Joint observations (e.g. EOVSA, VLA): depending on flare activity and science goals, turn on additional detectors
- Option: very low activity → turn off all detectors for a few days for maximal cooling

It takes about 2 days from decision to switch modes.

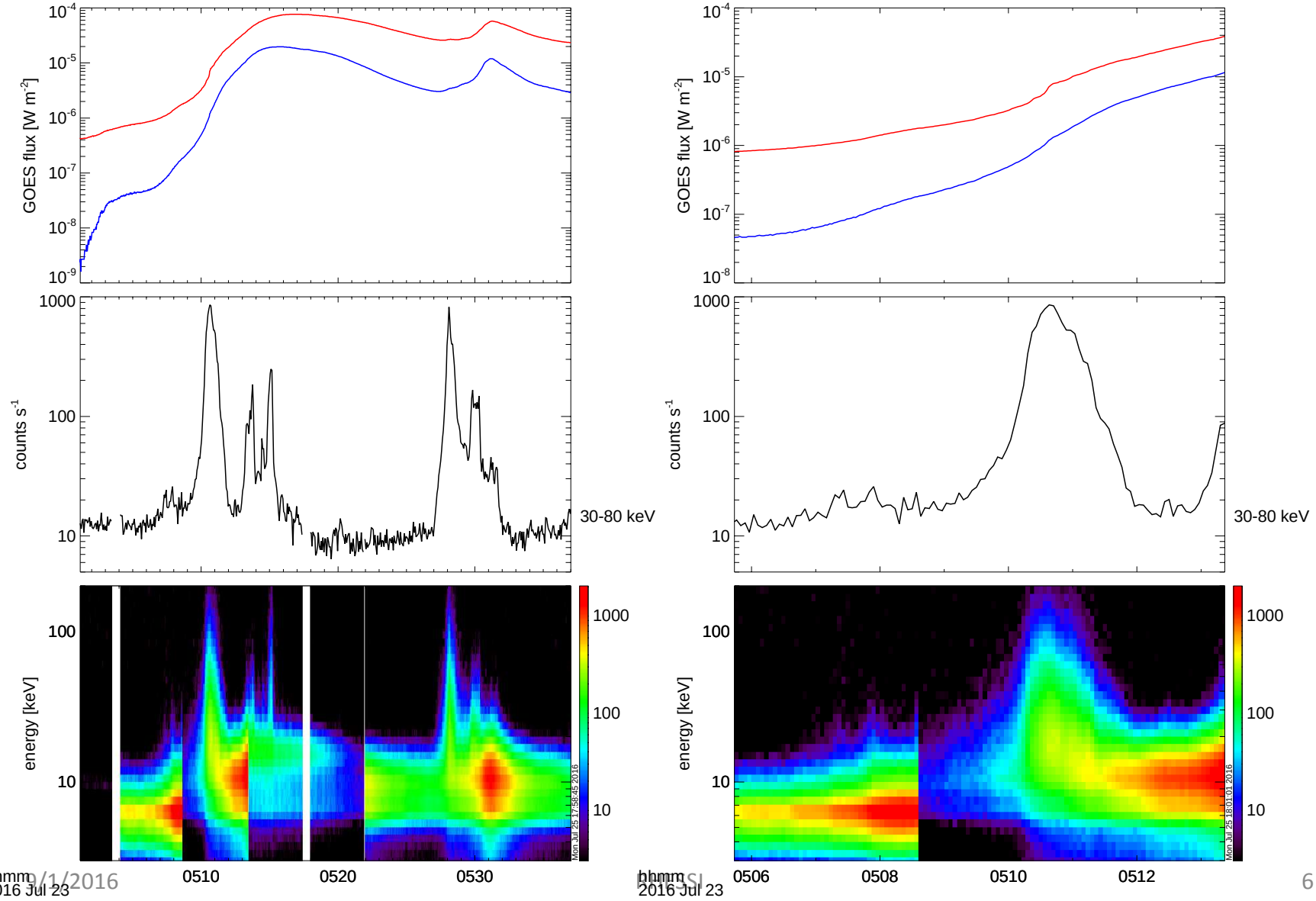
# Two-subcollimator imaging



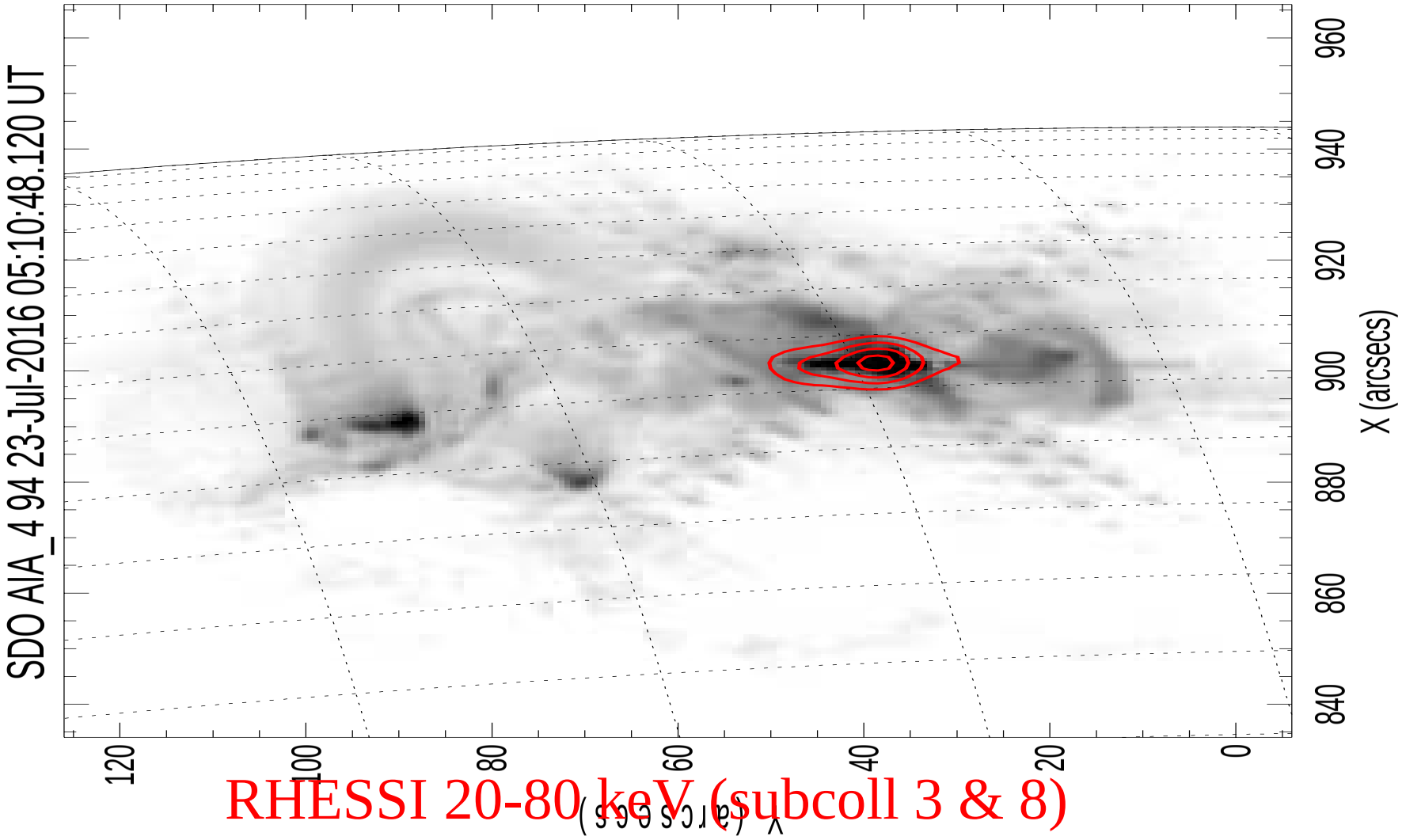

Imaging with two subcollimators works within limitation.
Contact RHESSI team members for help.



# July 23: Largest flare in 2016 so far




2016/07/23 05:03:36.120




RHESSI 20-80 keV (subcoll 3 & 8)

# Most important future collaborations presented at 14th RHESSI workshop

- **EOVSA, JVLA**: bremsstrahlung & gyrosynchrotron; coherent radio bursts
- **IRIS**: chromospheric response & evaporation
- **SDO/HMI, Hinode/SOT, ground based**: White light flares, flare ribbons, sunquakes
- **SDO/AIA, EVE; HINODE/EIS, XRT, STEREO**: geometry; temperature and density diagnostics
- **Fermi**: $\gamma$-ray flares, long duration events

# Outlook

- RHESSI operational decisions will become more and more challenging
- Goal:
  - observe large flares during the decaying solar cycle
  - Provide context HXR imaging for other observatories
- Senior review proposal due in early 2017
- Joint observations with STIX is within time frame of senior review proposal