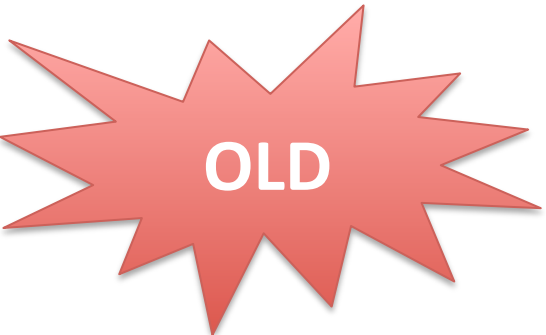
FOXSI-2 microflare imaging spectroscopy -- UPDATED

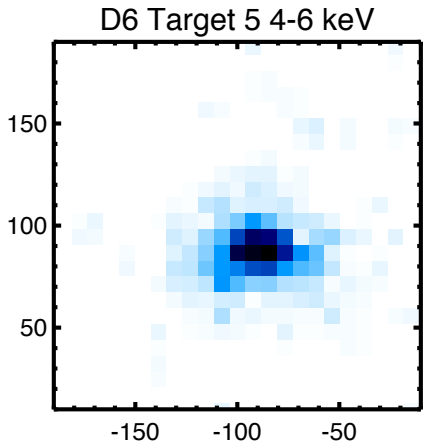
Lindsay

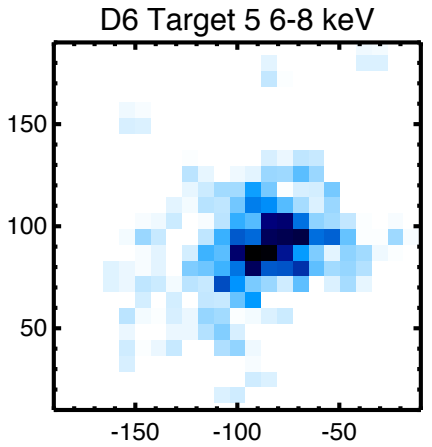
2015 April 1

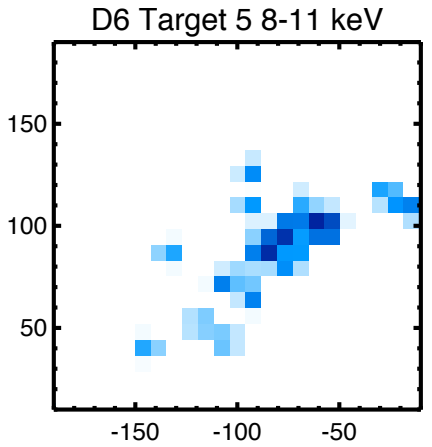
Last target

- Detector 6 in different energy bands



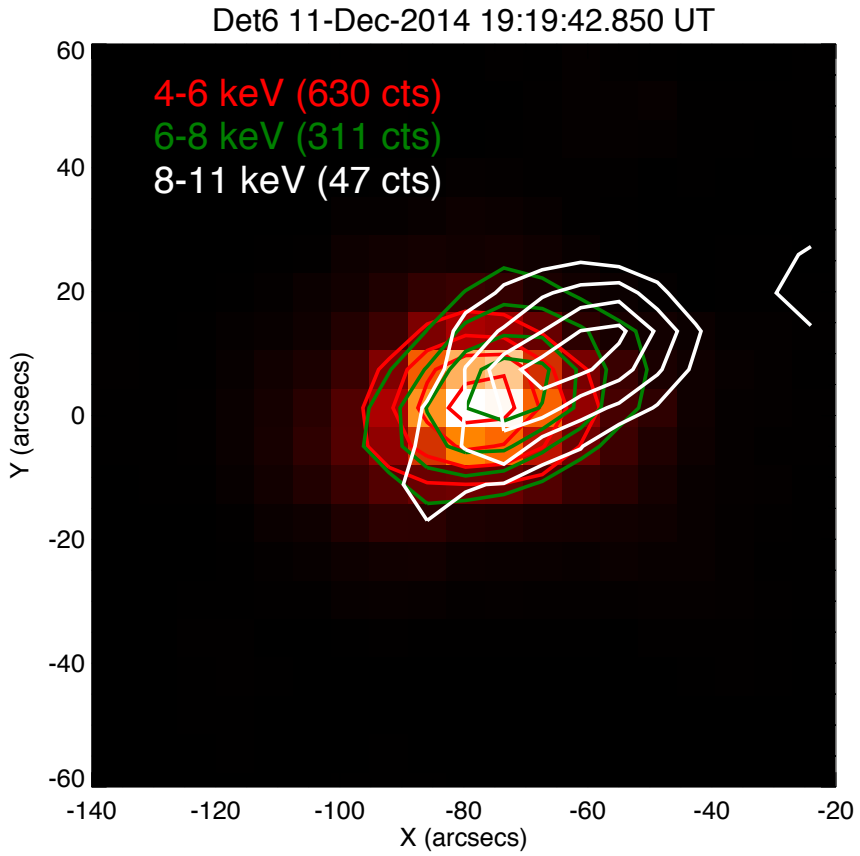






Detector 6 images of final target

- Smoothed images
  - Smoothed over 2 strips.
- Significant source location / shape change with energy.

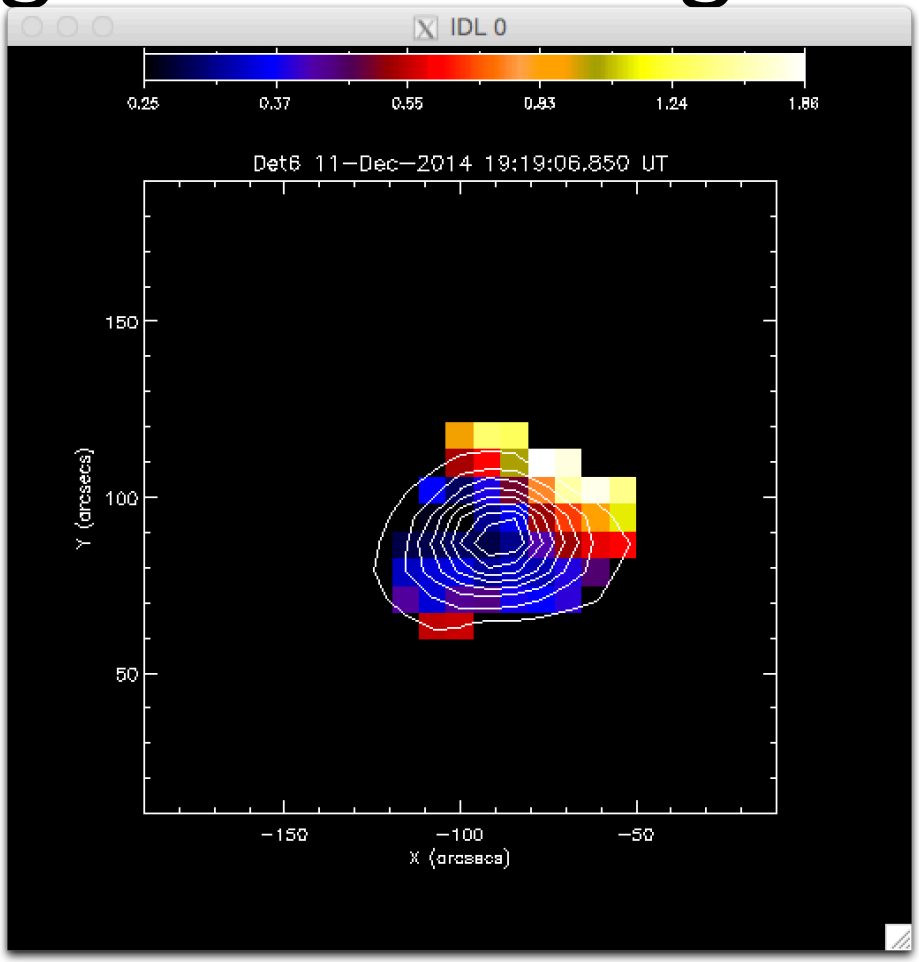


OLD

Detector 6 images of final target

- Ratio of high-energy to low-energy emission is a measure of temperature.
- Not calculating actual temperatures yet; need solidified instrument response for that.
- Hot plasma (or nonthermal electrons) ...ge of source.

OLD

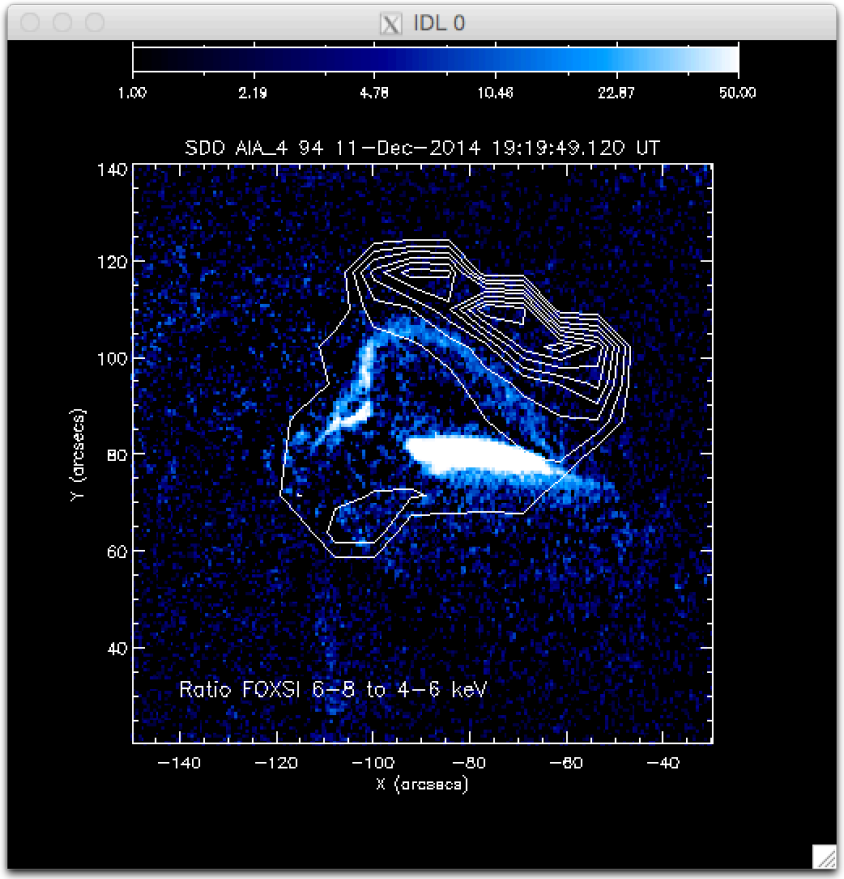


Ratio of 6-8 keV counts to 4-6 keV counts.

On top of AIA 94

- Alignment was done by lining up brightest points in FOXSI and AIA by eye. Could be wrong!
  - Co-aligning with RHESSI will help…
- A different alignment could put the high-temp plasma on the AIA ridge.
- Or perhaps the hot plasma is adjacent to, or above the ridge.

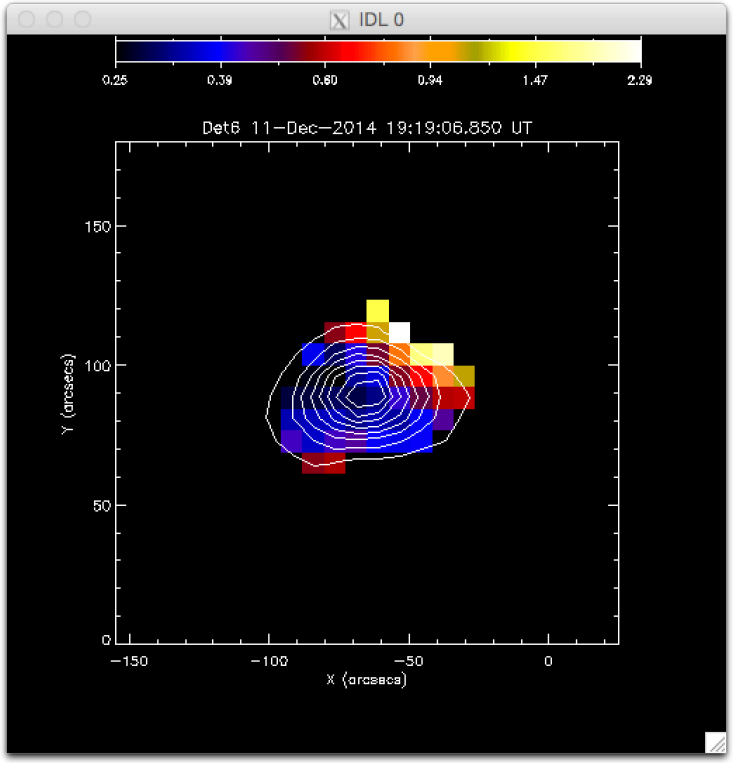
OLD



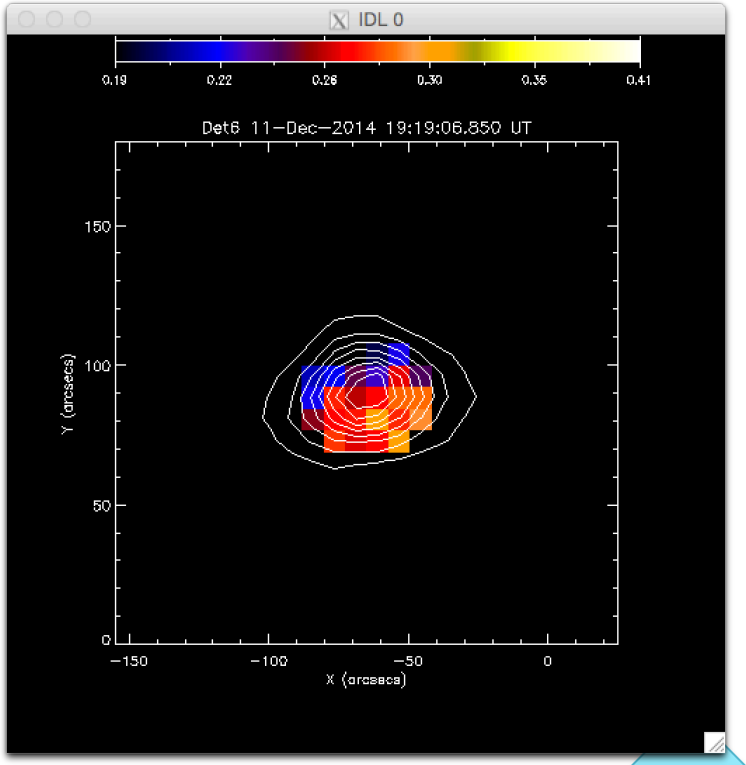
"Knottiness" is the pixel size. No, it's not nanoflares. ☺

Recently, ran the exact same code…

But instead of this…



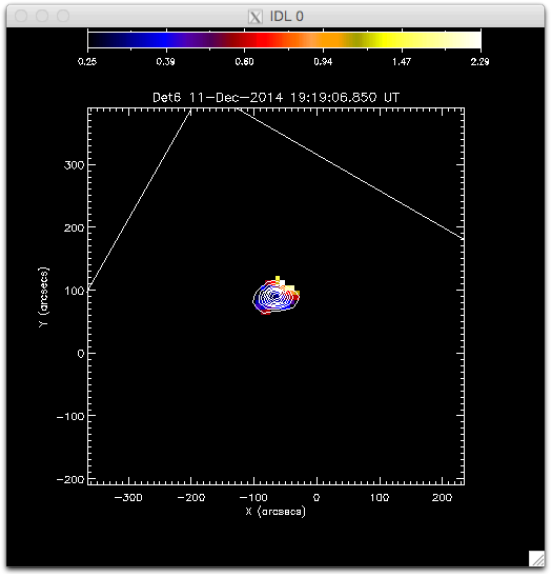
…I got this!

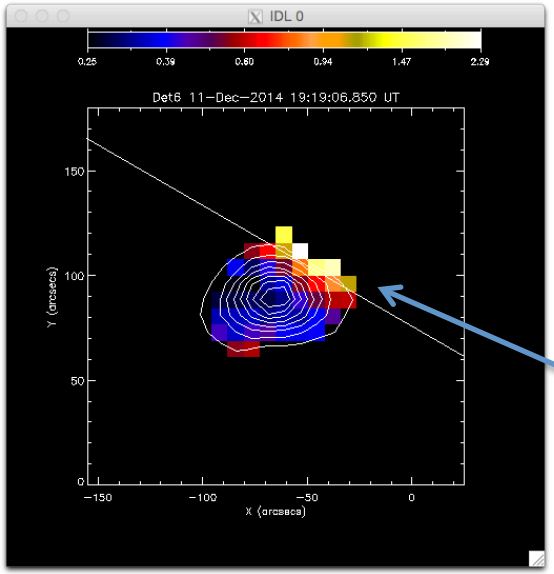


NEW!

What the &*%$?!?

Answer: old result used incorrect cal.



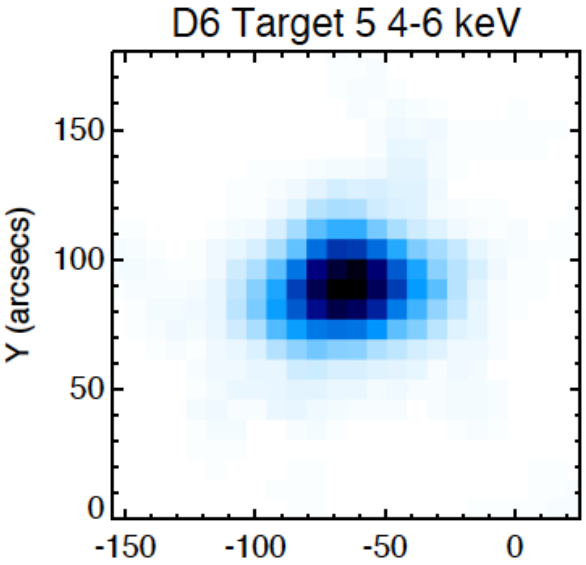


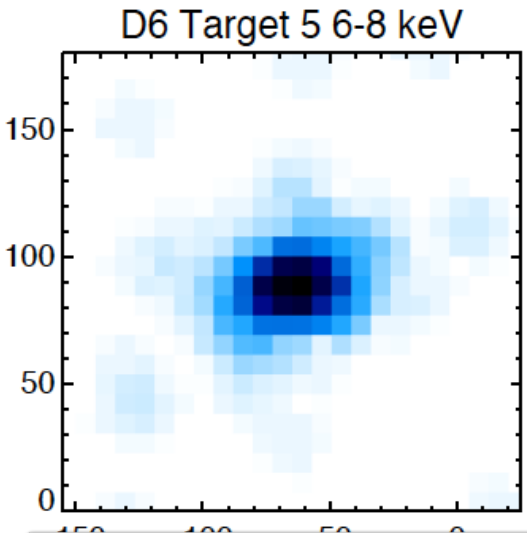
- (Earlier) assumption: exact calibration doesn't matter for this ratio method because only count ratios are important.
- But the earlier result used the incorrect calibration files, which meant that the strip-by-strip calibration was wrong!

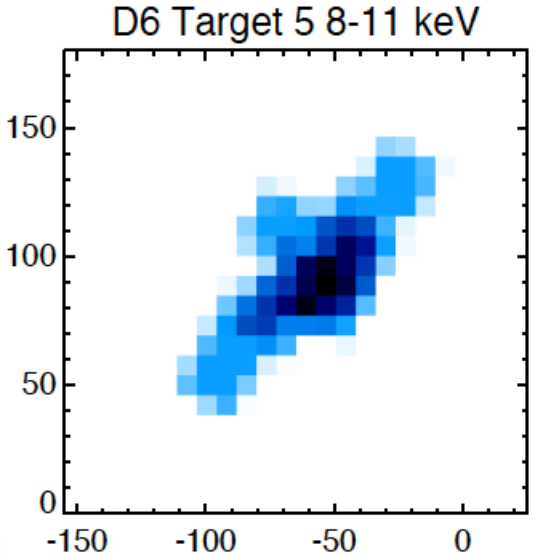
This is probably an incorrectly calibrated strip.

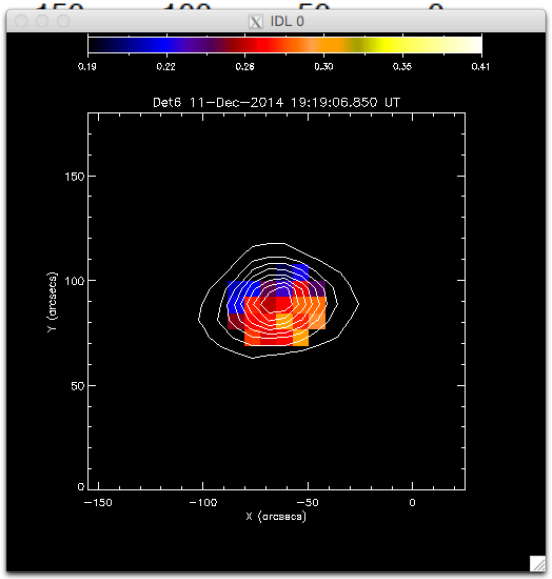
NEW!

Sighhh…so what does it really look like?

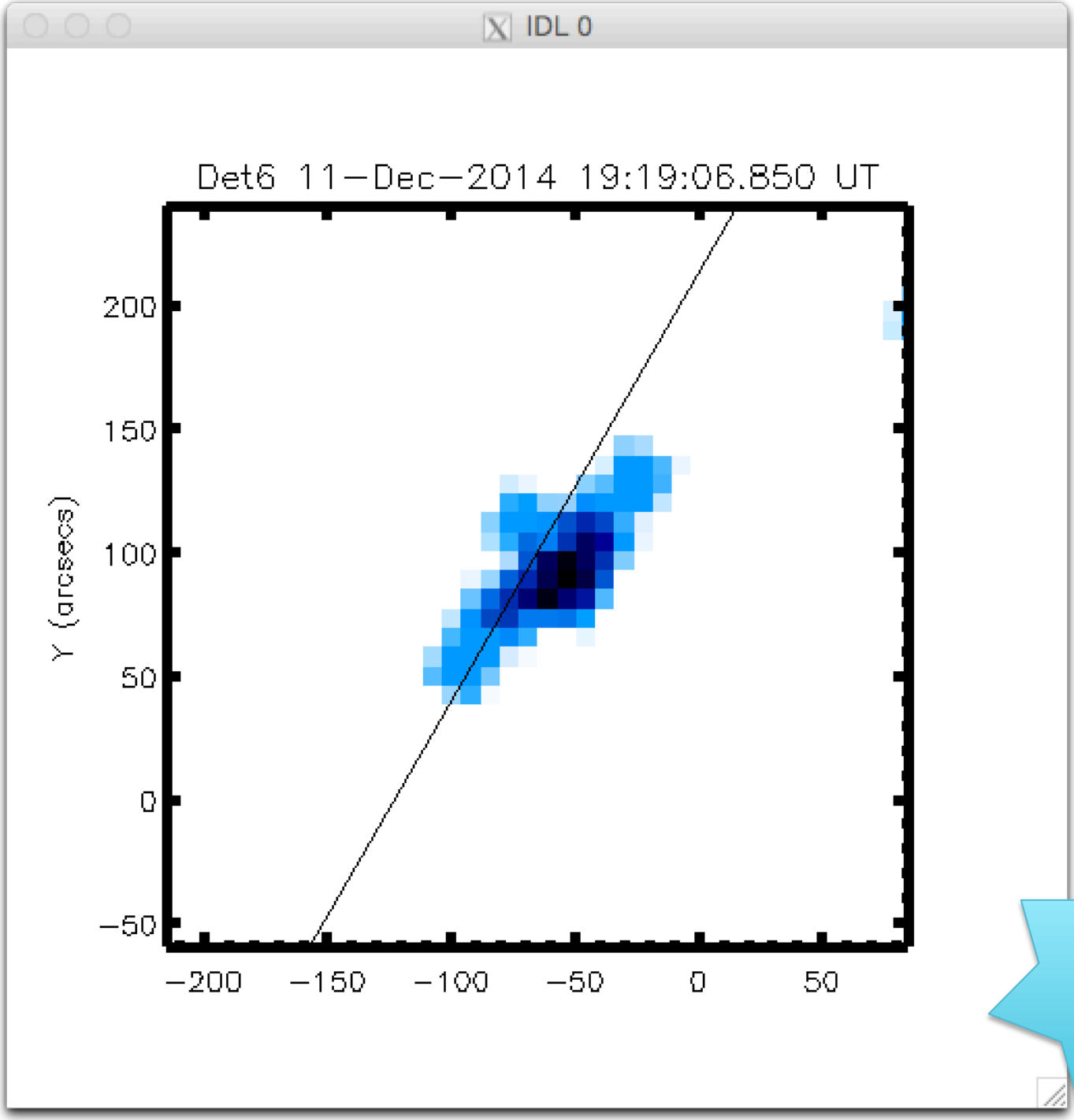








NEW!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Y (arcsecs)
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-100
-50
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NEW!