# V&V Summary Report
# L2 ASCDS Version : 10.3.3

Observation 17220 - L2 Version 1
Chandra X-Ray Center

L2 Processing Date : Jun 1 2015

See axaff17220N001_VV002_vvref2.pdf for the full report

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| V&V Scientist | Beth Sundheim |
| V&V Date (YYYY-MM-DD) | 2018.03.06 |
| V&V Edition | 2 |
| V&V Disposition and Status | OK |
| V&V Charge Time | 86.985959588766 |

## Comments

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Joint proposal with NRAO.
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The focal plane temperature during part of this observation was warmer
than the upper limit for optimum calibration of the ACIS gain and
spectral resolution (i.e., -114.0 C for ACIS-I and -112.0 C for
ACIS-S).
The Chandra calibration team calibrates the ACIS gain and spectral
resolution using data from the external calibration source (ECS). ECS
data show that the frontside-illuminated (FI) CCDs are more temperature
sensitive than the backside-illuminated (BI) CCDs.
A summary of the current calibration status of the ACIS gain and
spectral resolution can be found at:

http://asc.harvard.edu/cal/Acis/Cal_prods/Gain_and_Spectral_Resolution/A
CIS_response_summary.html

The main points are:
1) The gain on BI chips remains within 0.3% (i.e., the systematic
uncertainty in the ACIS gain quoted on the Chandra Calibration Status
Summary web page) at all measured temperatures.
2) The gain on FI chips remains within 0.3% below row 600 at all
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measured temperatures.
3) The gain on FI chips above row 600 can be underestimated by as much as 1% for focal plane temperatures exceeding -116 C.
4) The spectral resolution (i.e., FWHM) on BI chips is insensitive to the focal plane temperature.
5) Warmer focal plane temperatures increase the FWHM on FI chips by up to 30 eV near row 512 and by up to 70 eV near the top of the chips.
In summary, the user should be cautious in the spectral analysis of high S/N emission lines detected on the top half of FI chips in this observation. Default processing with the current version of the CALDB will underestimate photon energies by up to 1% and broaden emission lines by up to 70 eV.

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|---|---|---|
| seq_num | 801500 | Sequence number |
| obs_id | 17220 | Observation id |
| title | PKS B1400-33 and Abell S753: A Very Bright Radio Relic in a Poor Cluster | Proposal title |
| observer | Prof. Craig Sarazin | Principal investigator |
| object | Abell S753 | Source name |
| dtycycle | 0 |   |
| cycle | P | events from which exps? Prim/Second/Both |
| ra_targ | 211.124167 | Observer's specified target RA [deg] |
| dec_targ | -34.01075 | Observer's specified target Dec [deg] |
| ra_nom | 211.11952623791 | Nominal RA [deg] |
| dec_nom | -34.033147185686 | Nominal Dec [deg] |
| roll_nom | 282.06302619078 | Nominal Roll [deg] |
| revision | 1 | Processing version of data |
| ontime | 86985.959588766 | Sum of GTIs [s] |
| livetime | 85849.423988607 | Livetime [s] |
| ontime0 | 86985.959598899 | Sum of GTIs [s] |
| ontime1 | 86982.818528891 | Sum of GTIs [s] |
| ontime2 | 86985.959588885 | Sum of GTIs [s] |
| ontime3 | 86985.959588766 | Sum of GTIs [s] |
| ontime6 | 86985.959588885 | Sum of GTIs [s] |
| l2events | 251267 | Number of level 2 events |