

Evolution of dark currents in LYRA detectors - Update

IED 19 Jan 2018

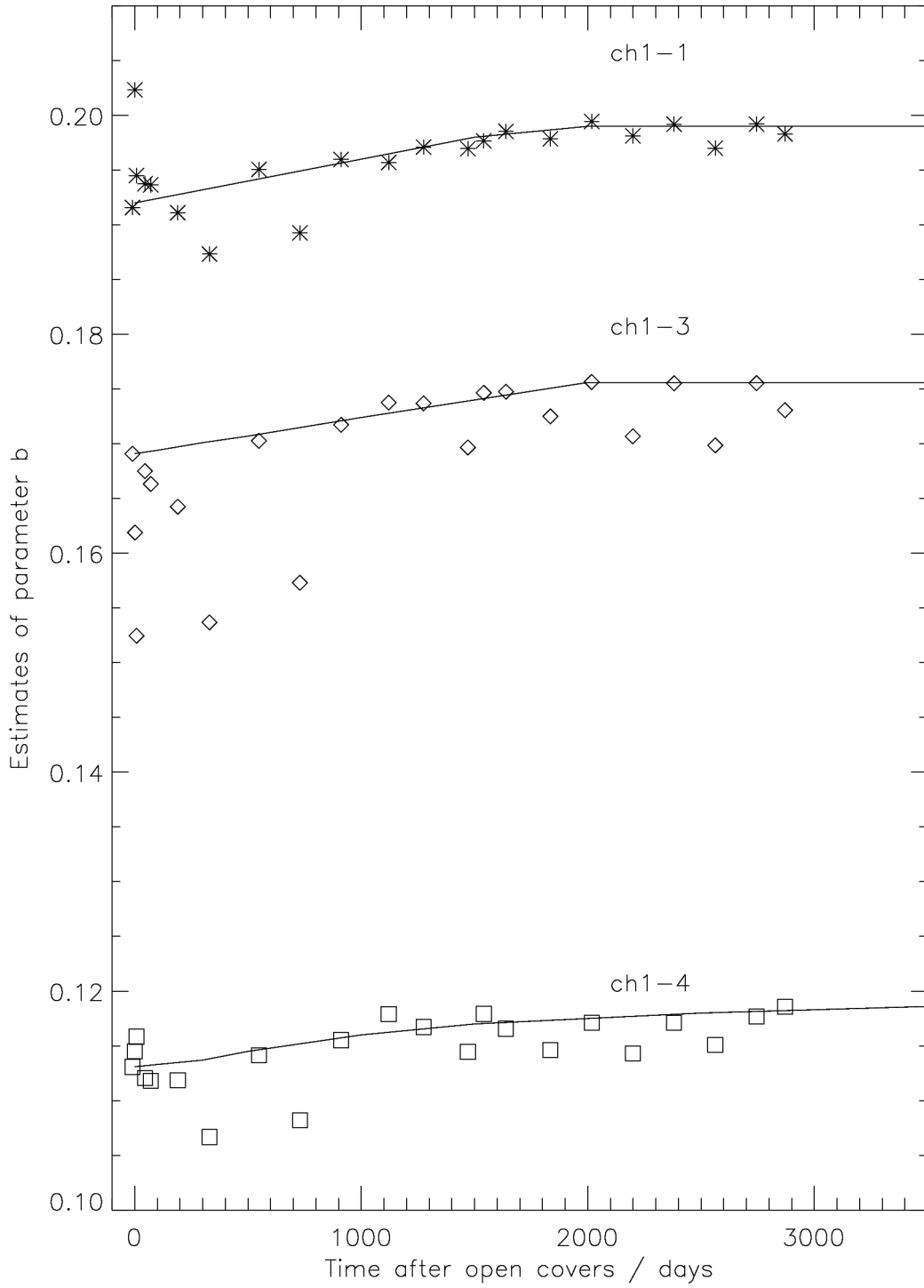
After two years, the present update was made using campaigns performed during the years 2016-2017. Basically, the results described in the last report

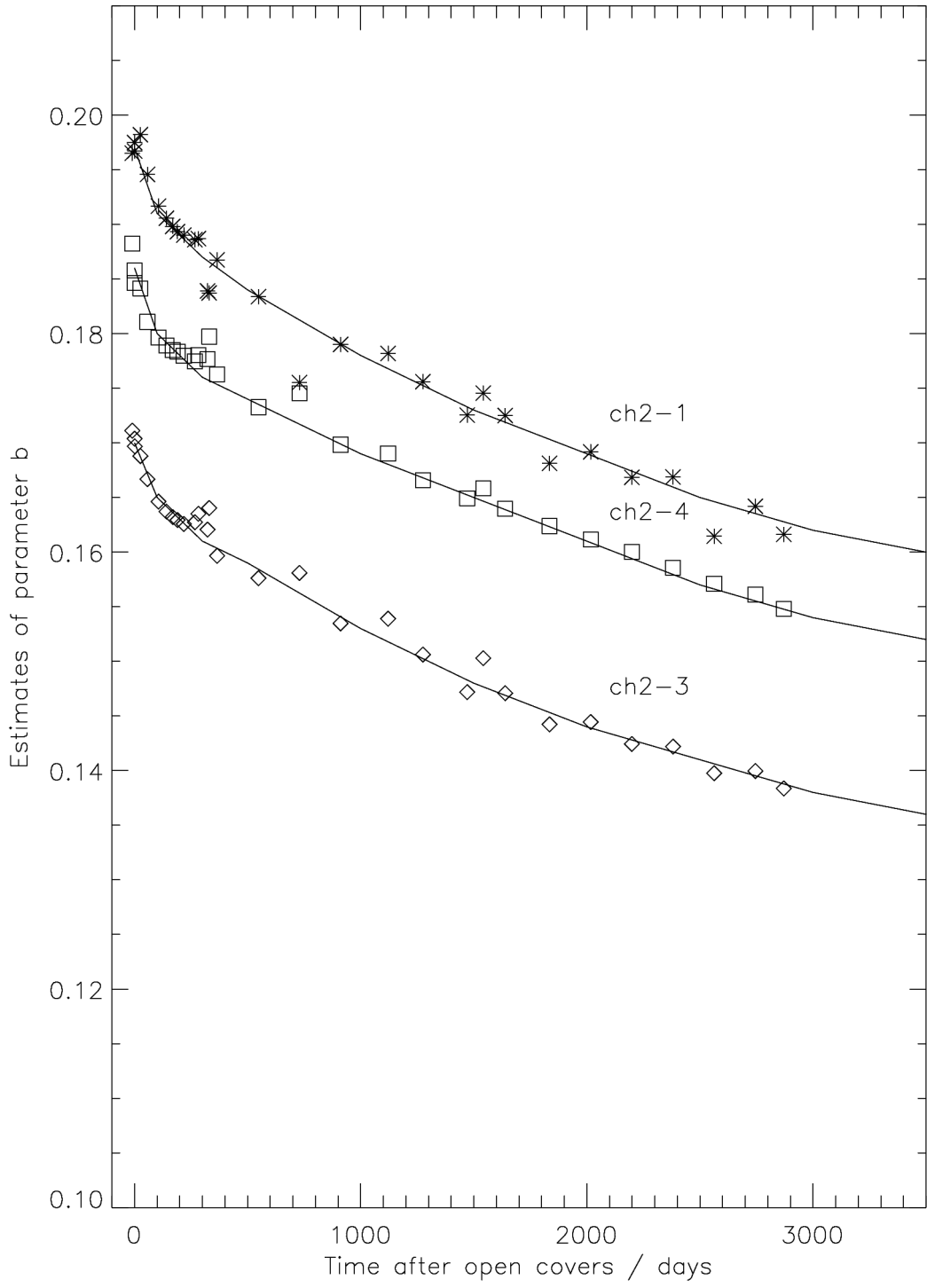
http://solwww.oma.be/users/dammasch/IED_20160307_EvolutionDC.pdf
are still valid. For explanations, please use this report. - Effectively, the dark-current development in the last two years was as anticipated.

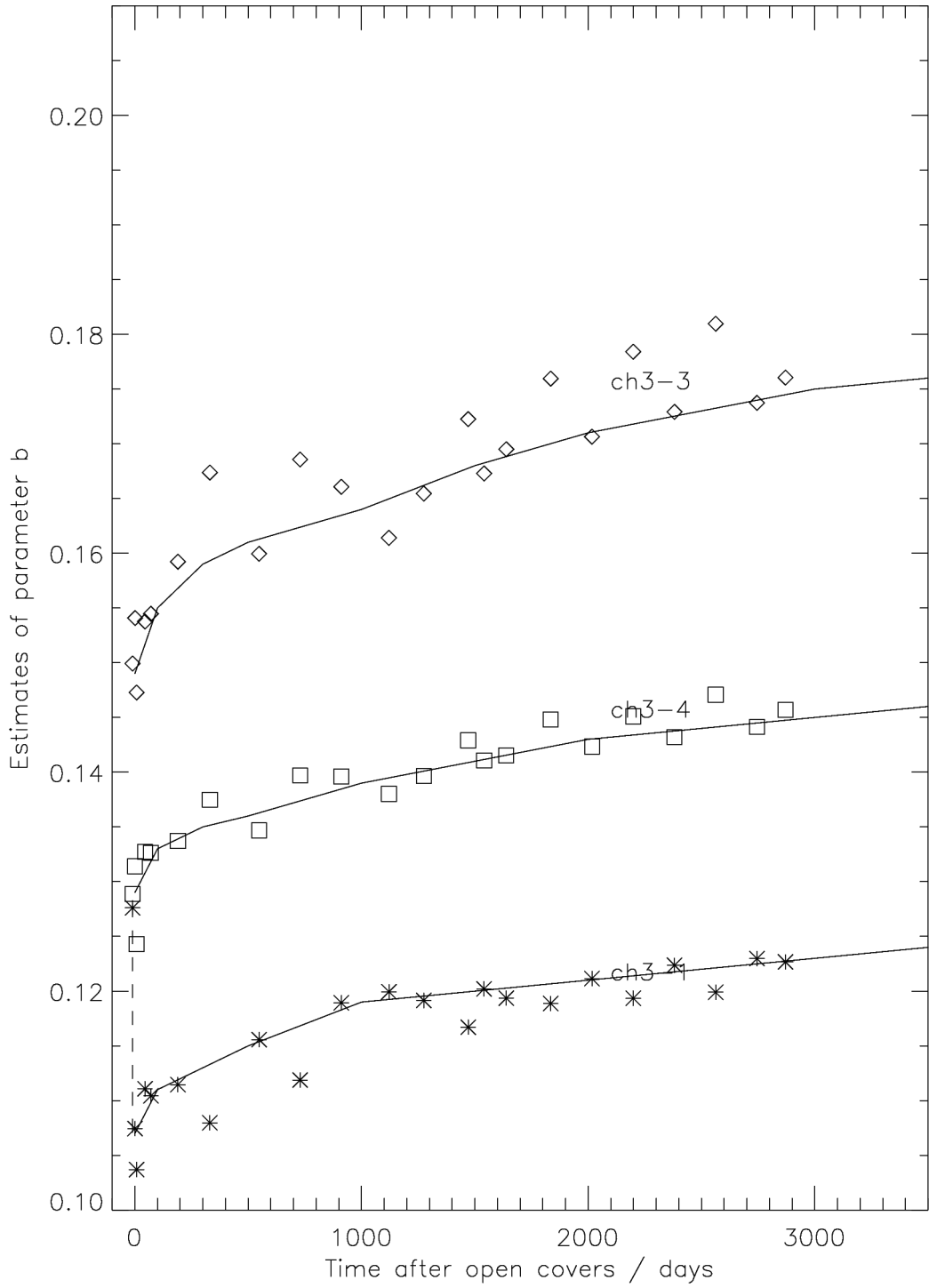
Changes in unit1 were always quite small, now they seem to have come to a halt. Changes in units 2 and 3 proceed almost linearly, maybe slowing down a bit. Changes appear to be related to the use of the detectors.

The next three figures show the (observed and projected) development of the parameter b , which is crucial for estimating the value of the dark current as a function of temperature. Thereafter, the next nine figures show the development of dark currents for LYRA channels 1-1, 1-3, 1-4, 2-1, 2-3, 2-4, 3-1, 3-3, 3-4 during the years 2010-2017: Estimated values (curves) and observed values (asterisks) vs. temperature, older campaigns in black, newer campaigns in grey.

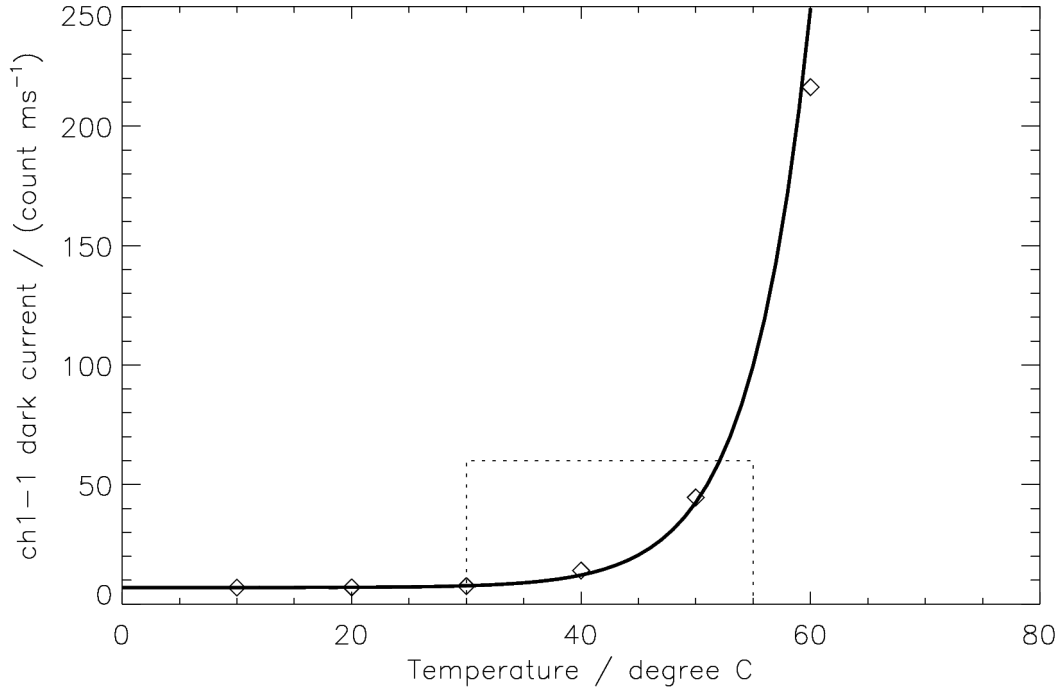
The calibration software has been updated (unit 2) or will be updated in the future (units 1 and 3) accordingly.



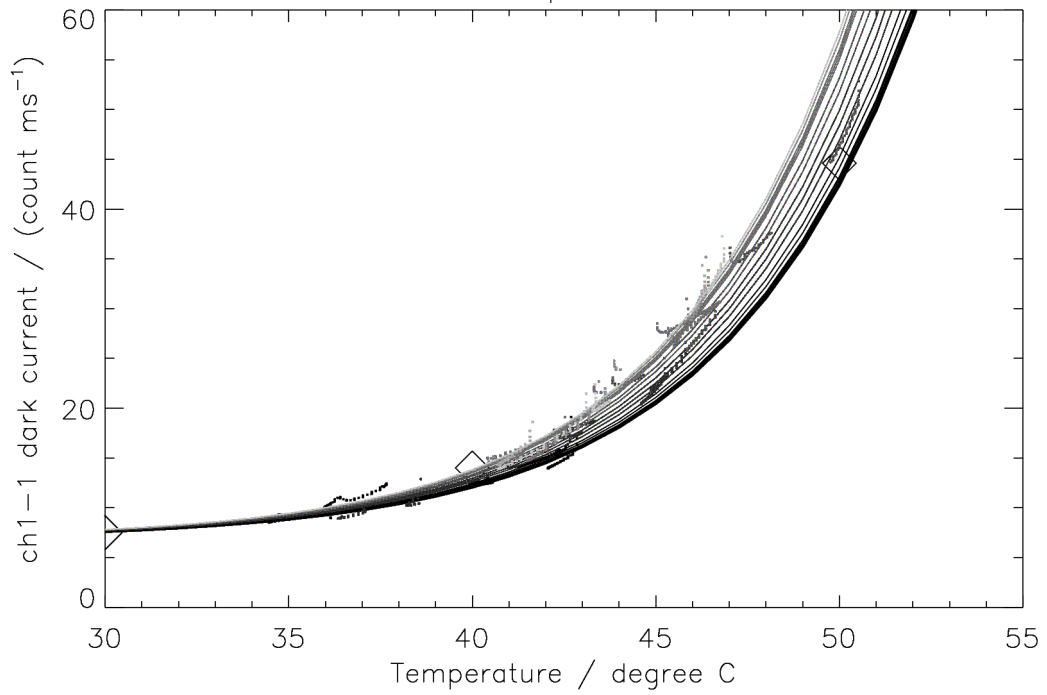




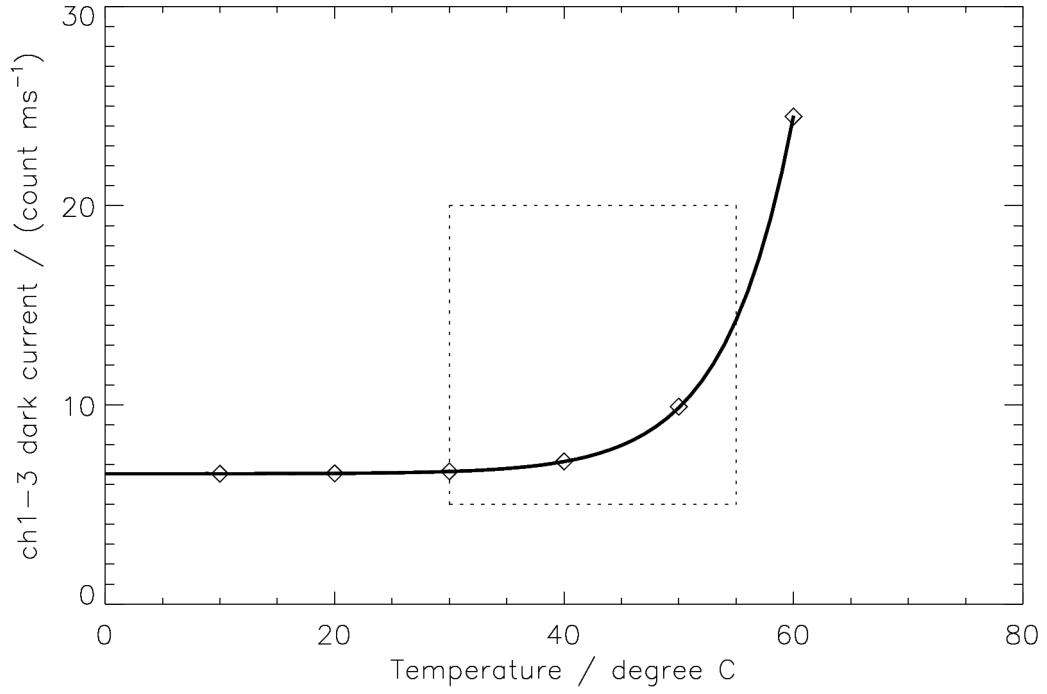
Pre-launch test measurement



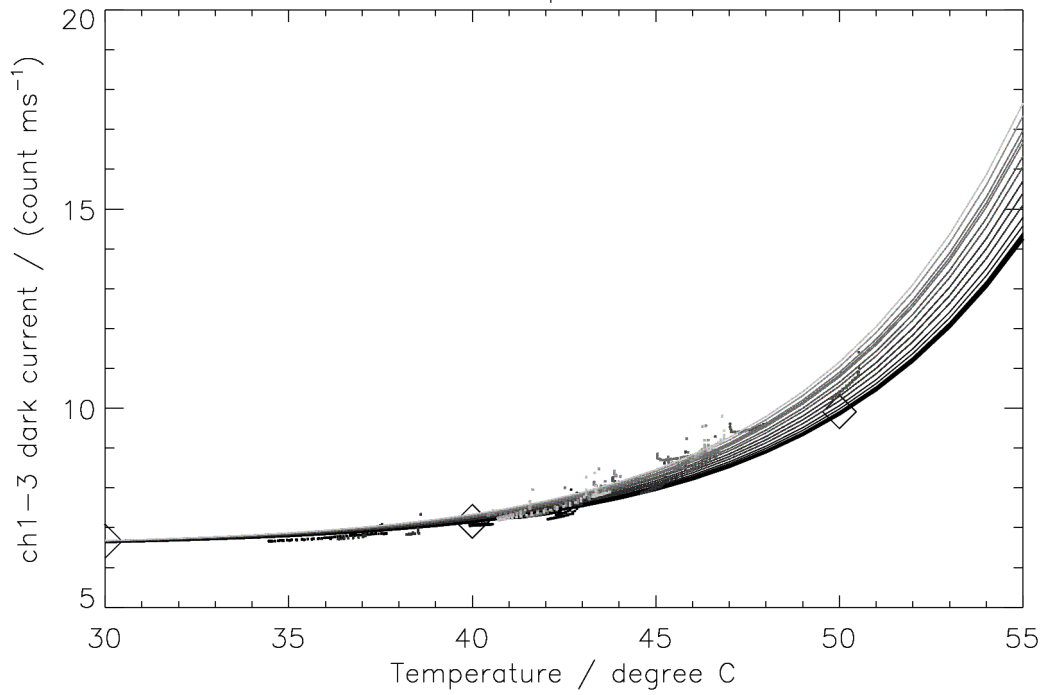
On-board development 2010-2017



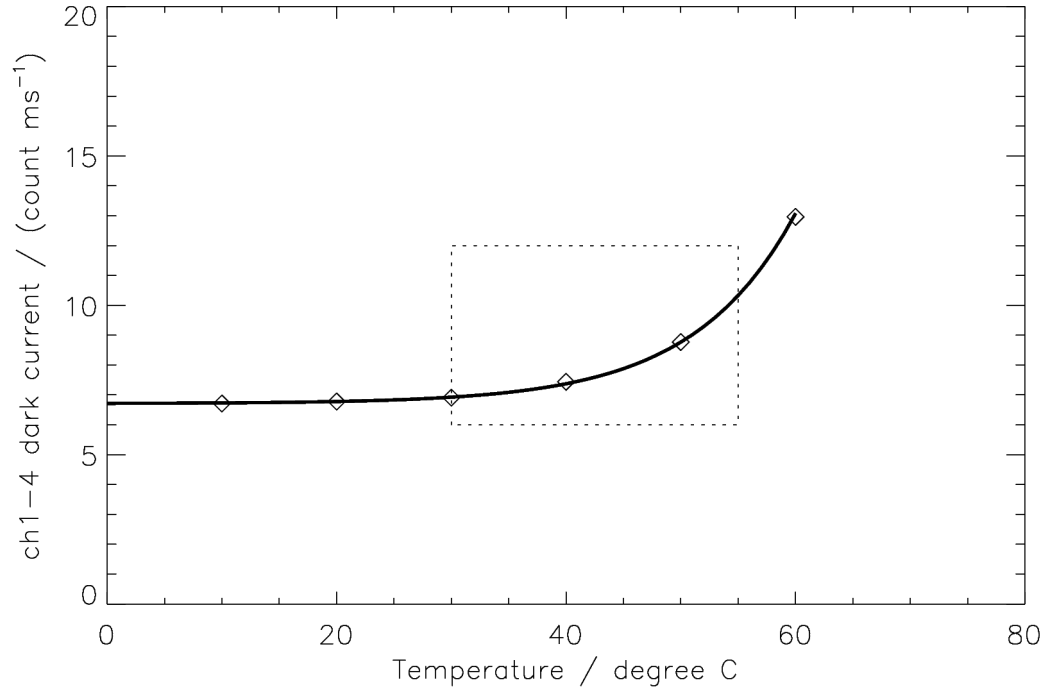
Pre-launch test measurement



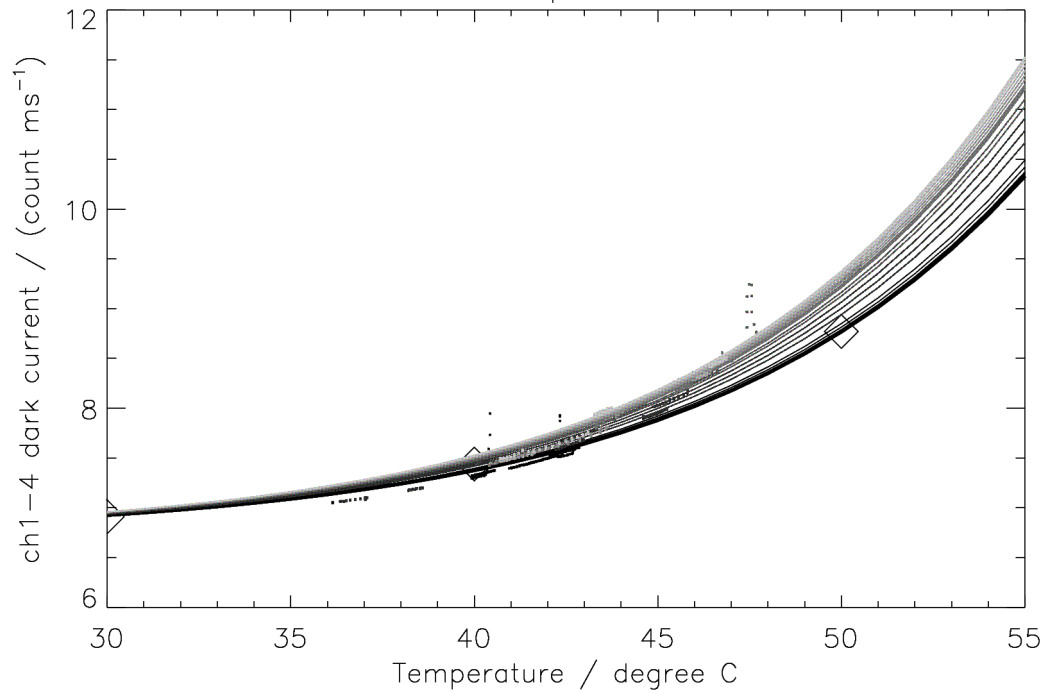
On-board development 2010-2017



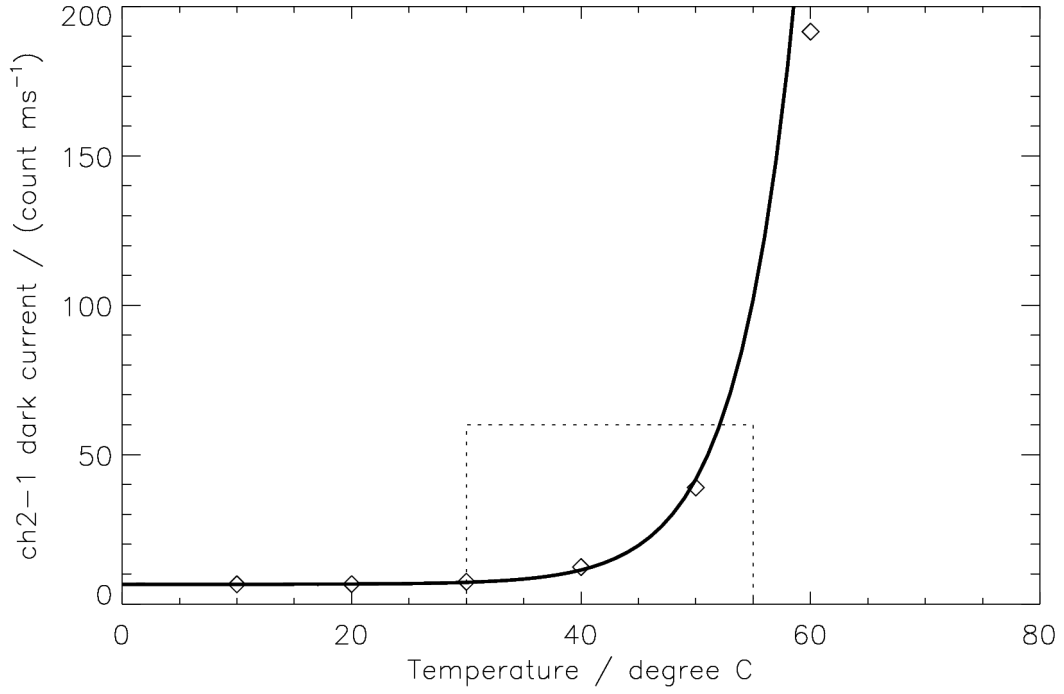
Pre-launch test measurement



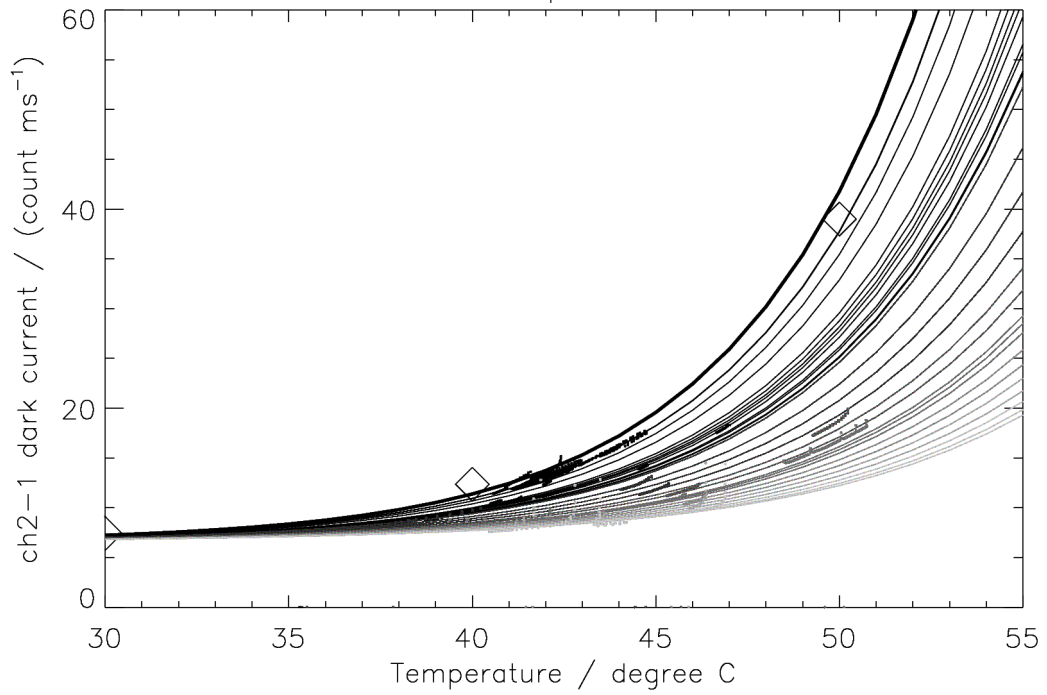
On-board development 2010-2017



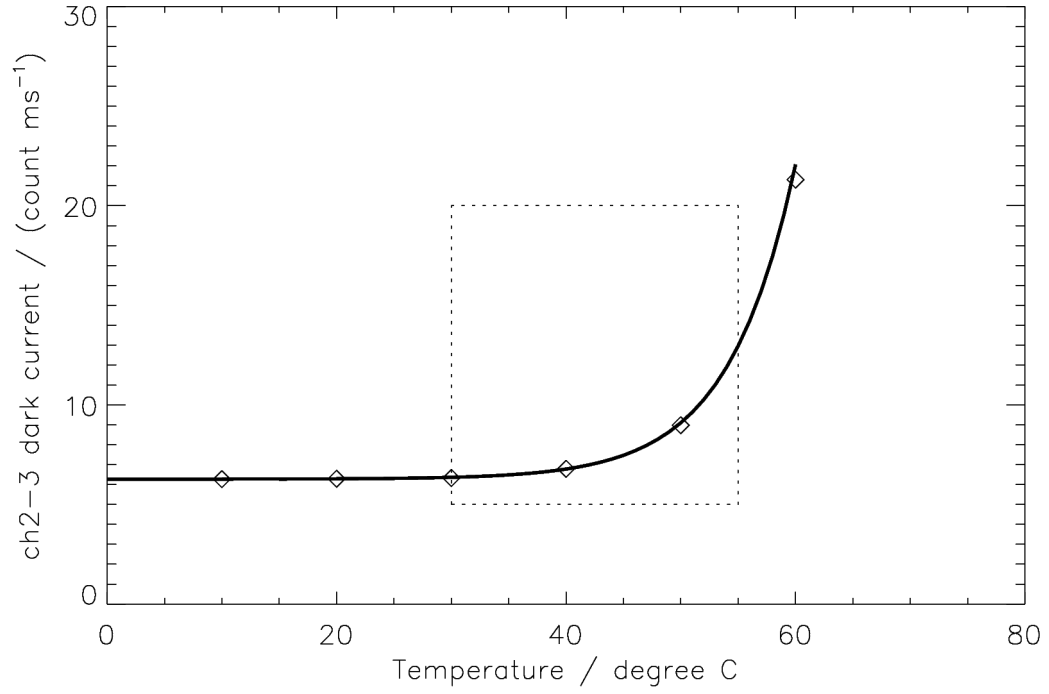
Pre-launch test measurement



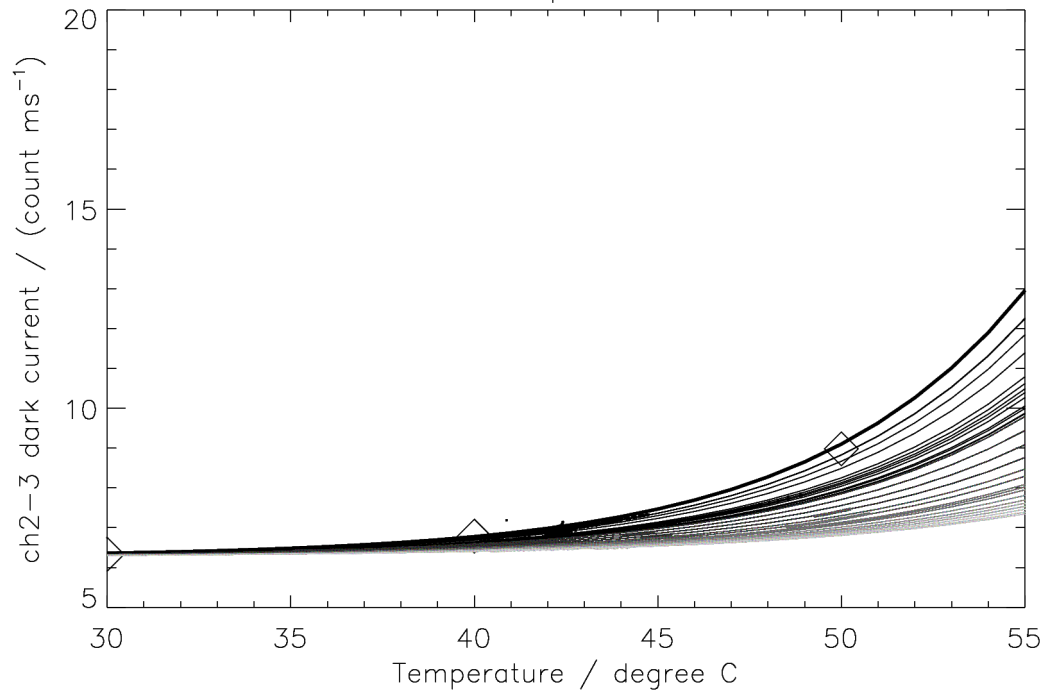
On-board development 2010-2017



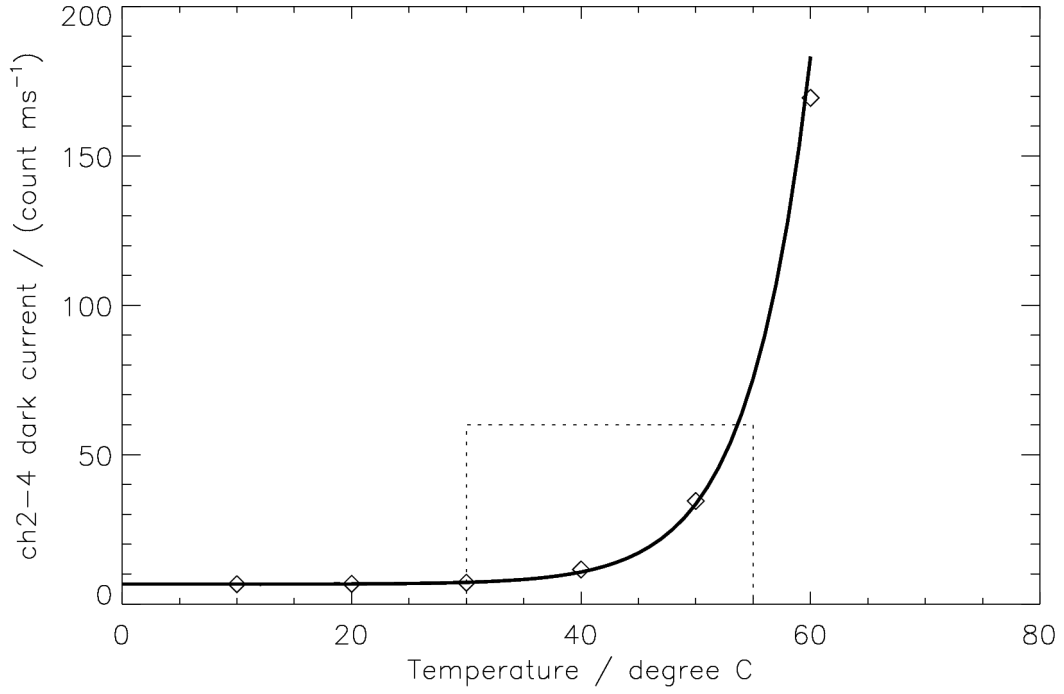
Pre-launch test measurement



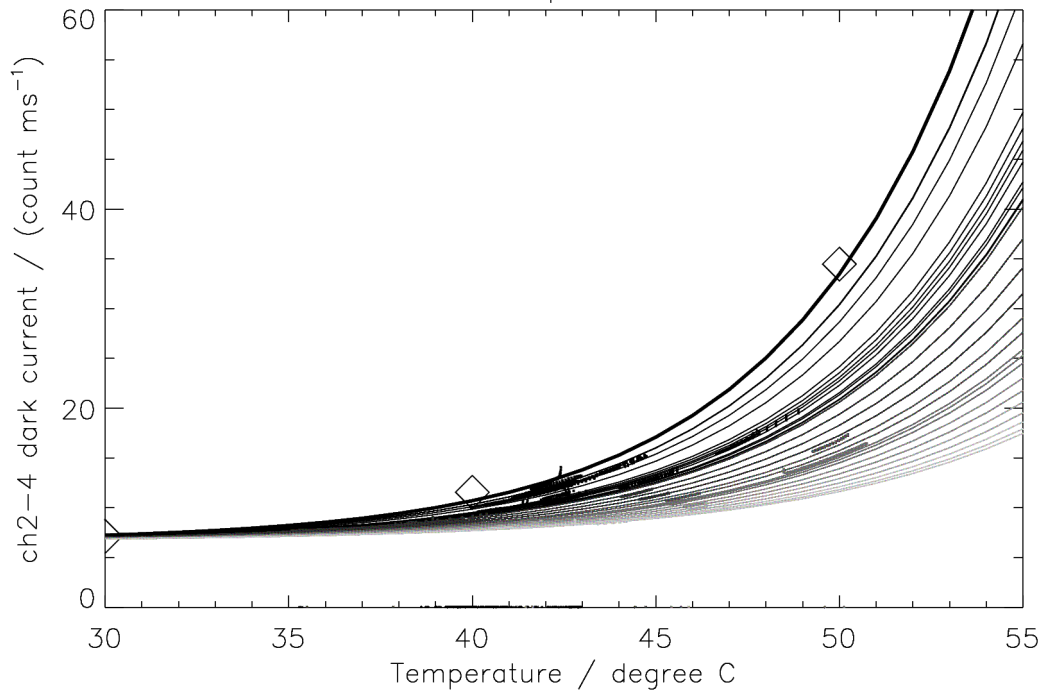
On-board development 2010-2017



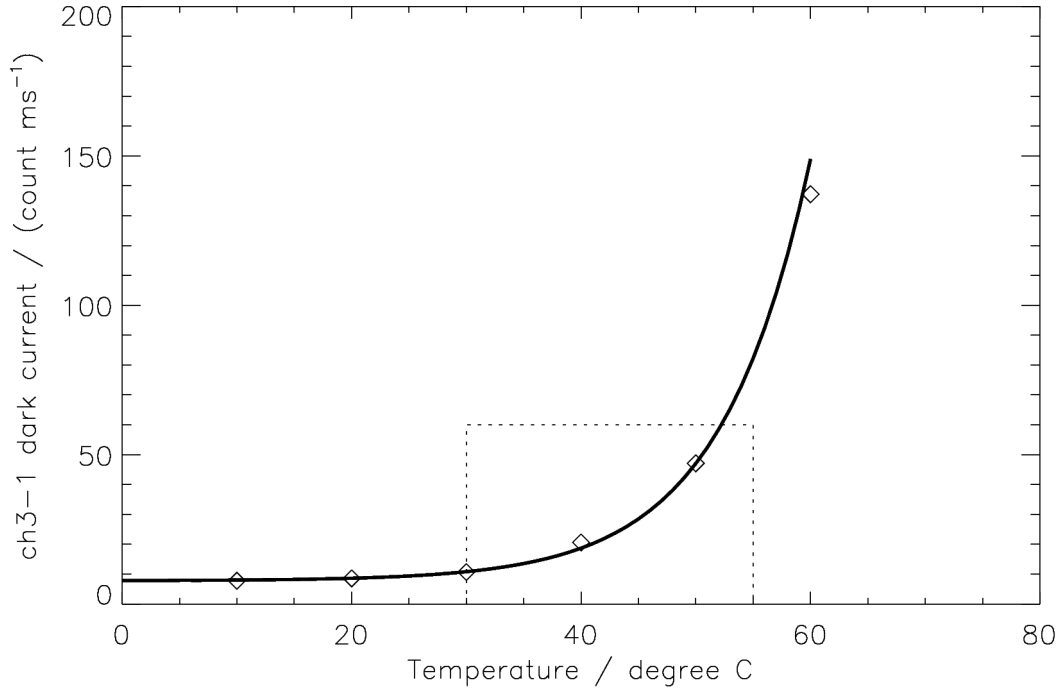
Pre-launch test measurement



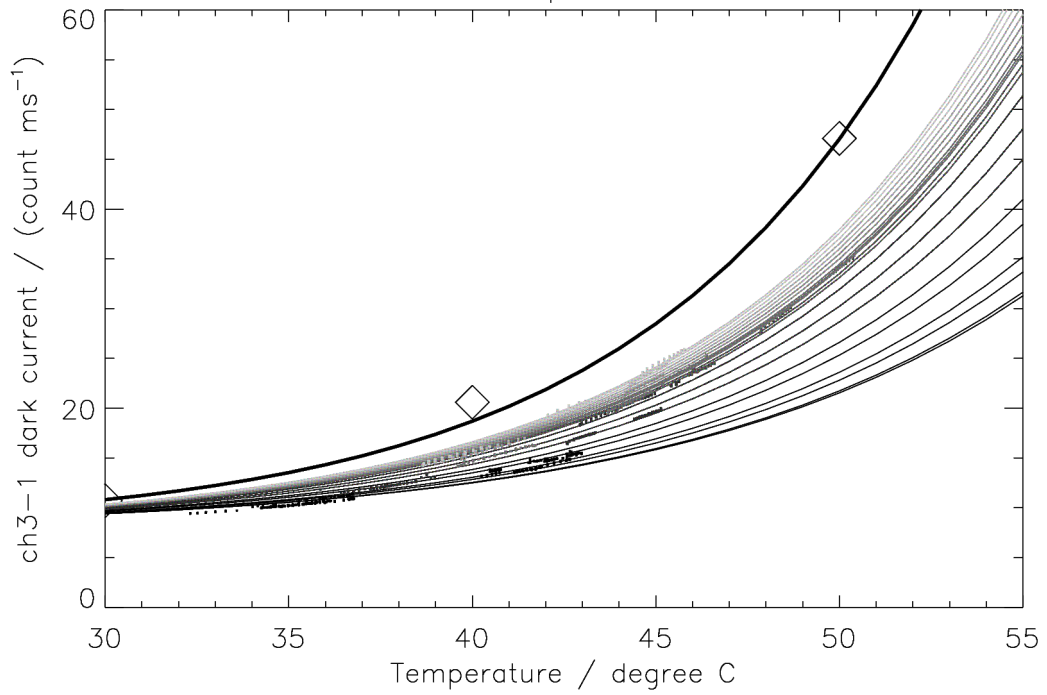
On-board development 2010-2017



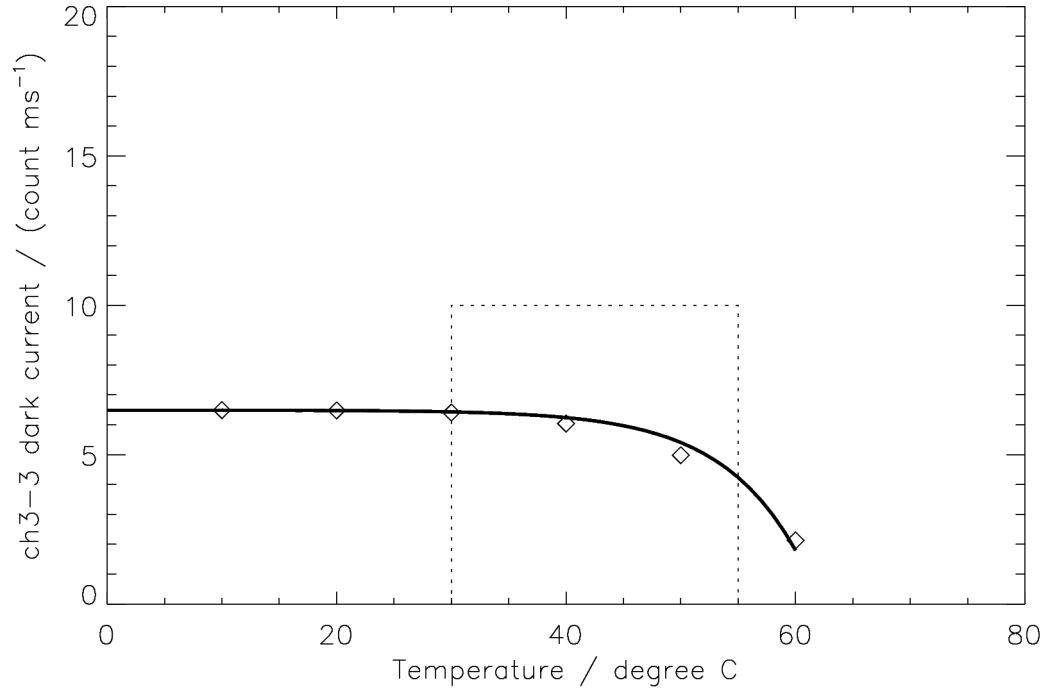
Pre-launch test measurement



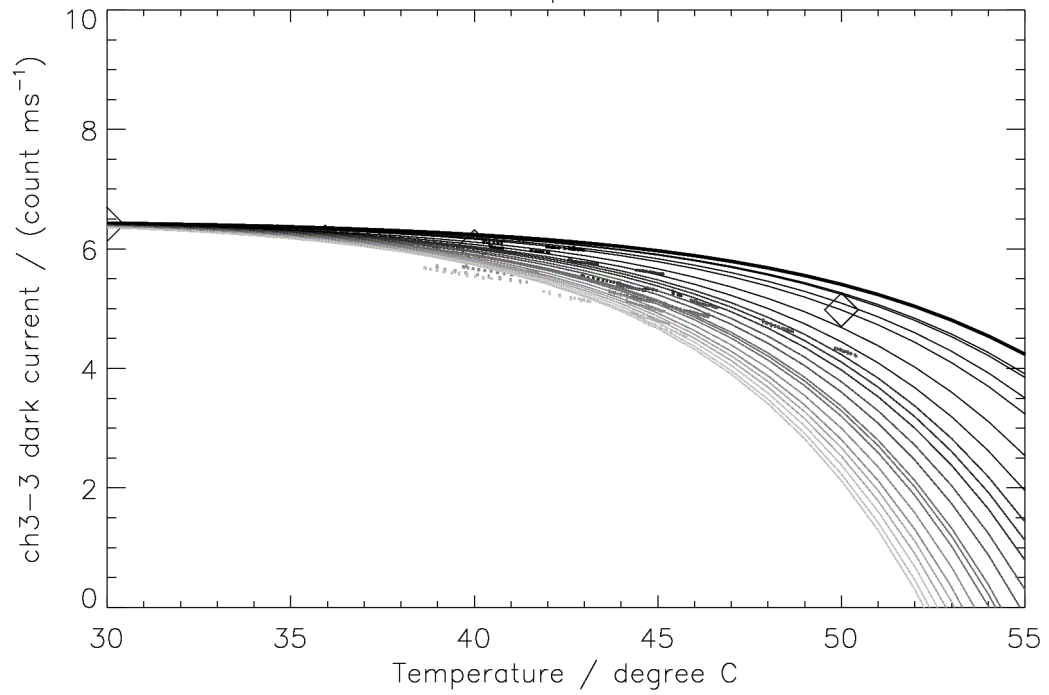
On-board development 2010-2017



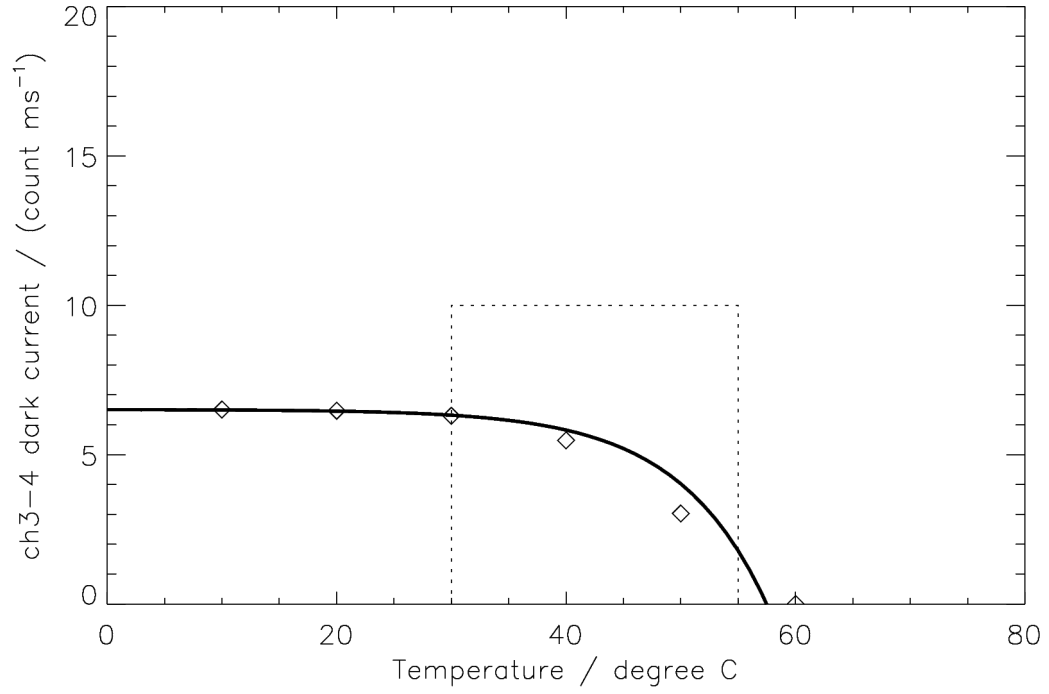
Pre-launch test measurement



On-board development 2010-2017



Pre-launch test measurement



On-board development 2010-2017

