5.1.12.2 WAC FM SENSITIVITY CALIBRATION RESULTS

As reported in Reference 5.1.12.2-1

Reference 5.1.12.2-1 - IOM 388-PAG-CCA97-4, "WAC FM Calibration Results: Sensitivity", C. Avis, March 12, 1997

Reference 5.1.12.2-2 - IOM 387-ER-97-628, "Cassini ISS Data Conversion/Transmission Factors", E. Romo, March 12, 1997

5.1.12.2.1 INTRODUCTION

The Wide-angle Flight Model thermal/vacuum testing included the acquisition of a set of images for determination of the system gain and sensitivity. The term 'sensitivity' describes the number of DN produced per unit of energy input into the system . The image data was taken at temperatures of +25° and +5° C in all gain states and antiblooming modes.

5.1.12.2.2 METHOD

For this camera system, the DN resulting from an exposure may be described by the following equation.

$$DN = VL(T - t_0) + DC_T + DN_0$$

where
- DN is the measured pixel value
- V is the system sensitivity (in DN/radiance_unit-milliseconds)
- L is the measured radiance (in arbitrary radiance_units)
- T is the commanded exposure time (in milliseconds)
- t_0 is the known shutter-offset (a function of image sample number, in msec)
- DN_0 is the video offset or bias level (in DN)
- DC_T is the dark-current level (a function of exposure time, in DN)

Analysis so far of DC_T indicates that for the exposure used here (maximum of 1000 msec), this value should be less than one DN. Therefore, the above equation is simplified to

$$DN = VL(T - t_0) + DN_0$$

Because the shutter-offset was previously derived, only V and DN_0 need to be solved for. DN_0 could be measured by zero-exposure images, but it falls out of the least-squares fit anyway.

Images at the same signal level are combined to produce signal and energy values at 100 small areas at all available signal levels. Energy values come from the product of the exposure time (corrected for shutter-offset) and the radiance of the source. Values for Sensitivity and the Bias level are then derived at each of these small areas independently. This is done by solving the above equation using least-squares.

The 100 derived values are then compared and any areas giving values more than 2 sigma from the mean are flagged as bad. Global values for V and DN_0 are then derived by averaging the values at the remaining good areas.

5.1.12.2.3 RESULTS

The following tables report the best fit Sensitivity and the Bias level. The results are given for the corner regions, the center and for the whole frame. The calibration equipment quantified the light produced by the source in units of picoamps. Therefore, the Sensitivity values below are given in units of DN/picoamp-msec and the Bias level is in units of DN. These values have not been corrected to account for the transmission of the chamber window.

4X4 GAIN=0 ANTIBLOOMING = OFF TEMPERATURE = +°C25	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.172674	0.000966	118.483	0.572
UPPER-RIGHT	0.170002	0.001350	118.984	0.461
LOWER-LEFT	0.175416	0.000919	118.457	0.273
LOWER-RIGHT	0.170968	0.001594	119.094	0.253
CENTER	0.175345	0.002153	118.726	0.371
FULL FRAME	0.173759	0.002714	118.722	0.474

2X2 GAIN=1 ANTIBLOOMING = OFF TEMPERATURE = +°C25	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.093012	0.000576	76.854	0.402
UPPER-RIGHT	0.091538	0.000745	76.763	0.332
LOWER-LEFT	0.094853	0.000528	78.480	0.475
LOWER-RIGHT	0.092394	0.001106	78.013	0.526
CENTER	0.094641	0.001096	78.222	0.546
FULL FRAME	0.093647	0.001545	77.816	0.820

1X1 GAIN=2 ANTIBLOOMING = OFF TEMPERATURE = +°C25	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.075449	0.000279	82.913	2.159
UPPER-RIGHT	0.074561	0.000637	80.868	0.462
LOWER-LEFT	0.076868	0.000550	89.724	1.043
LOWER-RIGHT	0.075253	0.000892	84.553	1.173
CENTER	0.076900	0.000870	84.475	2.110
FULL FRAME	0.076122	0.001216	84.363	2.894

1X1 GAIN=2 ANTIBLOOMING = ON TEMPERATURE = +°C25	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.075761	0.000272	83.801	2.285
UPPER-RIGHT	0.074932	0.000626	81.554	0.495
LOWER-LEFT	0.077150	0.000555	90.940	1.156
LOWER-RIGHT	0.075549	0.000895	85.338	1.224
CENTER	0.077199	0.000865	85.408	2.242
FULL FRAME	0.076448	0.001193	85.301	3.058

1X1 GAIN=3 ANTIBLOOMING = OFF TEMPERATURE = +°C25	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.178161	0.000910	59.179	0.813
UPPER-RIGHT	0.175586	0.001525	59.733	0.917
LOWER-LEFT	0.182194	0.001043	67.096	1.993
LOWER-RIGHT	0.177332	0.002177	67.325	1.963
CENTER	0.181557	0.002205	63.024	2.483
FULL FRAME	0.179784	0.003097	63.403	3.516

4X4 GAIN=0 ANTIBLOOMING = OFF TEMPERATURE = °C 5	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.162984	0.000906	118.608	0.519
UPPER-RIGHT	0.160354	0.001372	119.061	0.272
LOWER-LEFT	0.165159	0.001275	118.664	0.269
LOWER-RIGHT	0.162513	0.001741	119.507	0.180
CENTER	0.165932	0.002127	118.907	0.243
FULL FRAME	0.164371	0.002661	118.917	0.383

2X2 GAIN=1 ANTIBLOOMING = OFF TEMPERATURE = °C 5	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.100935	0.000542	73.097	0.345
UPPER-RIGHT	0.099432	0.000798	73.109	0.337
LOWER-LEFT	0.102339	0.000711	74.393	0.439
LOWER-RIGHT	0.100826	0.001289	74.455	0.445
CENTER	0.102820	0.001163	74.327	0.465
FULL FRAME	0.101691	0.001574	74.004	0.716

1X1 GAIN=2 ANTIBLOOMING = OFF TEMPERATURE = °C 5	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.077038	0.000347	78.012	0.335
UPPER-RIGHT	0.076090	0.000605	78.302	0.359
LOWER-LEFT	0.078330	0.000559	81.490	0.950
LOWER-RIGHT	0.077126	0.001004	81.588	0.940
CENTER	0.078523	0.000943	79.778	1.140
FULL FRAME	0.077812	0.001205	79.960	1.561

1X1 GAIN=2 ANTIBLOOMING = ON TEMPERATURE = °C 5	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.077726	0.000336	74.294	0.316
UPPER-RIGHT	0.076764	0.000616	74.655	0.384
LOWER-LEFT	0.078972	0.000556	77.664	0.900
LOWER-RIGHT	0.077751	0.001011	77.829	0.884
CENTER	0.079209	0.000942	75.979	1.090
FULL FRAME	0.078484	0.001211	76.191	1.507

1X1 GAIN=3 ANTIBLOOMING = OFF TEMPERATURE = ºC 5	SENSITIVITY	SIGMA	BIAS	SIGMA
UPPER-LEFT	0.180757	0.000795	62.549	0.820
UPPER-RIGHT	0.178568	0.001421	63.254	0.909
LOWER-LEFT	0.183643	0.001304	70.585	1.968
LOWER-RIGHT	0.180847	0.002336	70.986	1.951
CENTER	0.184268	0.002205	66.439	2.544
FULL FRAME	0.182558	0.002824	66.995	3.577

The Thermal/Vacuum chamber window blocks some of the input energy. Therefore, the above numbers must be adjusted for the transmission of the window. The mean transmission for the range 408 to 898 nm is 0.93227. The available data doesn't extend past 898 nm whereas the bandpass for the CL1/CL2 filter combination is 400 to 1100 nm. The Sensitivity values corrected for the transmission of the window are reported below for the full-frame case.

			Sensitivity (DN / picoamp-milliseconds)	
Gain State	Mode State	Anti-blooming	Temperature = 25°C	Temperature = 5°C
0	4X4	OFF	0.18638 ± 0.0029	0.17631 ± 0.0029
1	2X2	OFF	0.10045 ± 0.0017	0.10908 ± 0.0017
2	1X1	OFF	0.08165 ± 0.0013	0.08347 ± 0.0013
2	1X1	ON	0.08200 ± 0.0013	0.08419 ± 0.0013
3	1X1	OFF	0.19285 ± 0.0033	0.19582 ± 0.0030

Proper use of the factors reported in Reference 5.1.12.2-2 can convert these values into physically meaningful units such as DN/nanowatt-msec/cm^2/sr/nm.

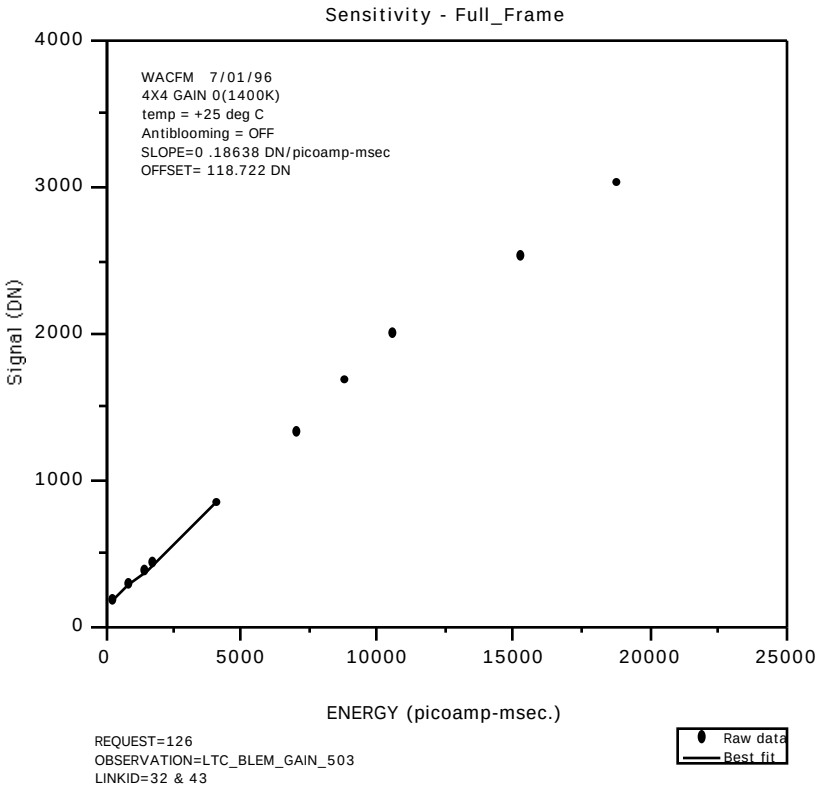
Notes:

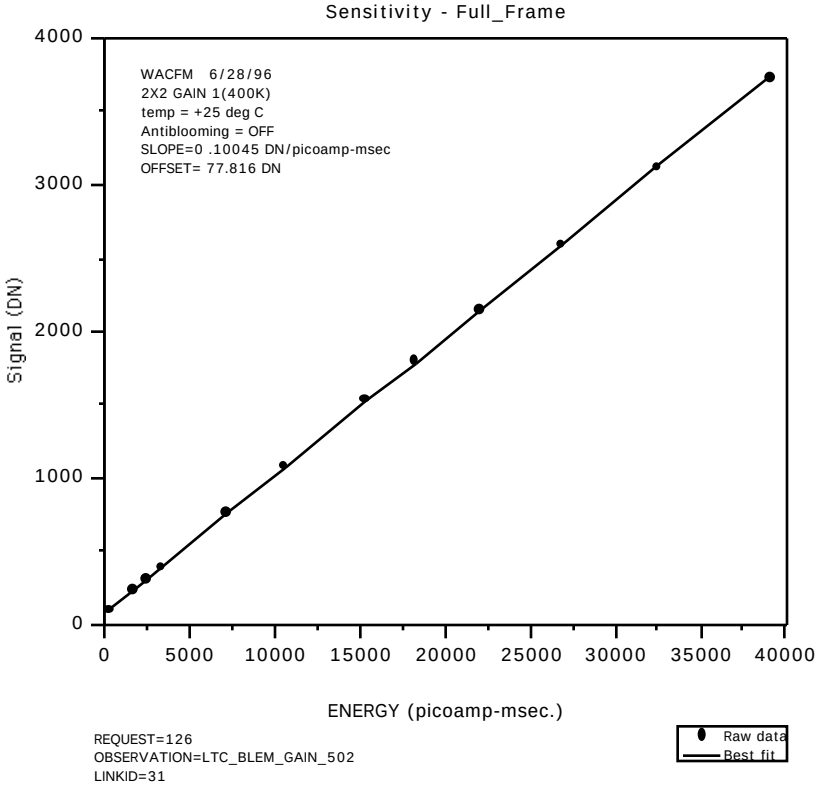
1. Due to linearity problems, the results for Gain 0 were calculated using exposure times of 0 to 70 milliseconds only.
2. For Gain 3, the radiance was set as 45.2 picoamps (for 25°C) and 42.8 picoamps (for 5°C).

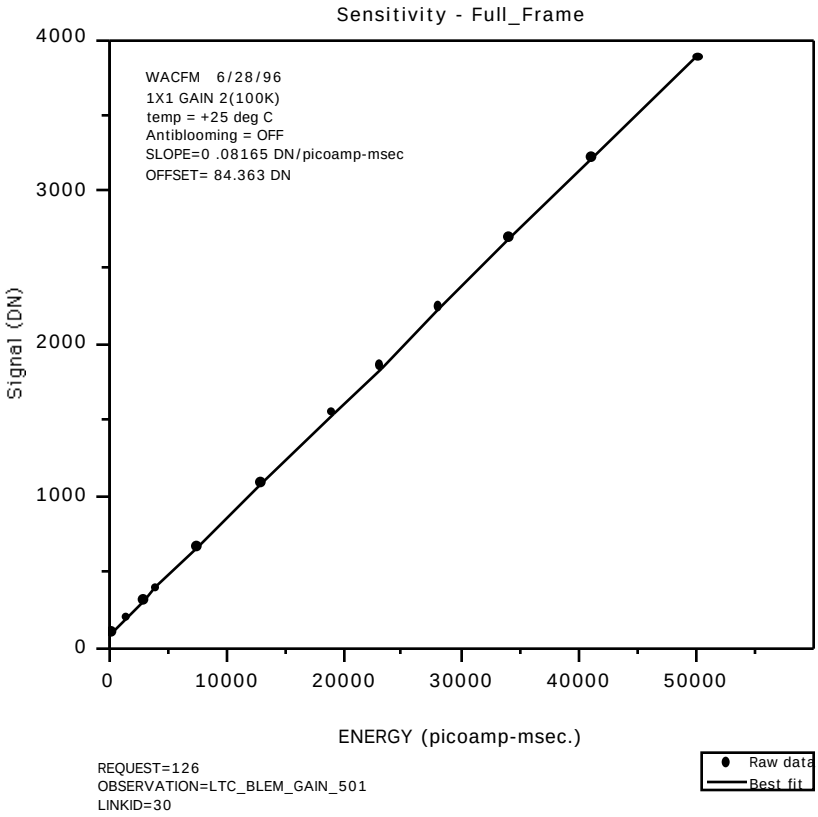
5.1.12.2.4 CONCLUSIONS

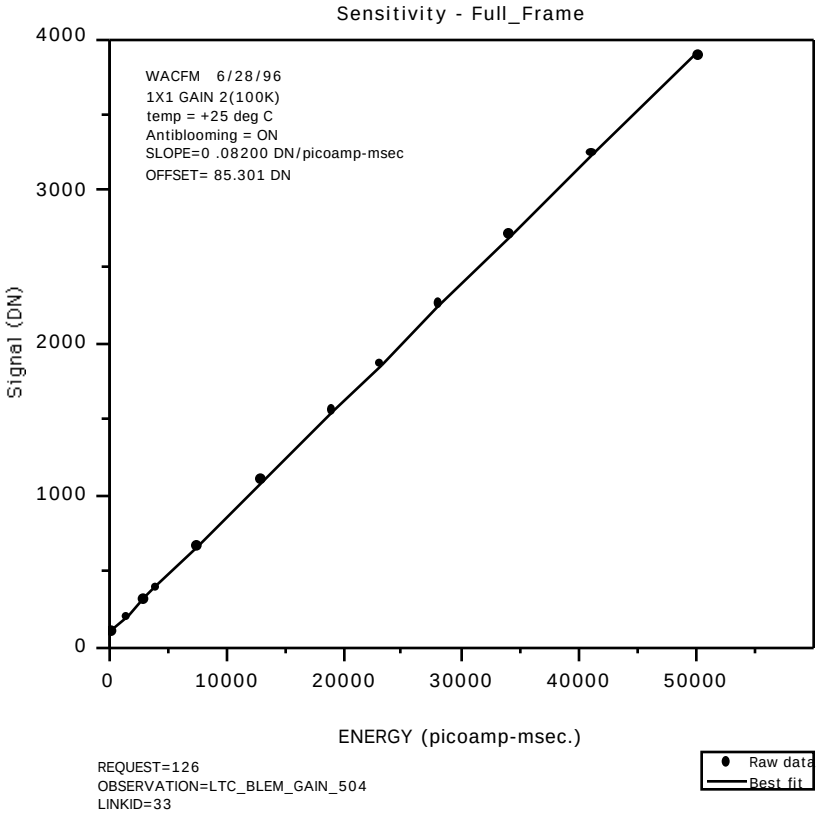
1. Regardless of the fact that Gain 0 (4x4 mode) has the weird oscillations above about 1000 DN in the Signal vs. Noise plot, the Signal vs. Energy (or exposure) curve continues to rise (although with a kink in the middle).
2. For Gain 2 (1x1 mode), the use of Antiblooming mode had no effect on the Sensitivity slope.
3. There is no difference in behavior at the two test temperatures.

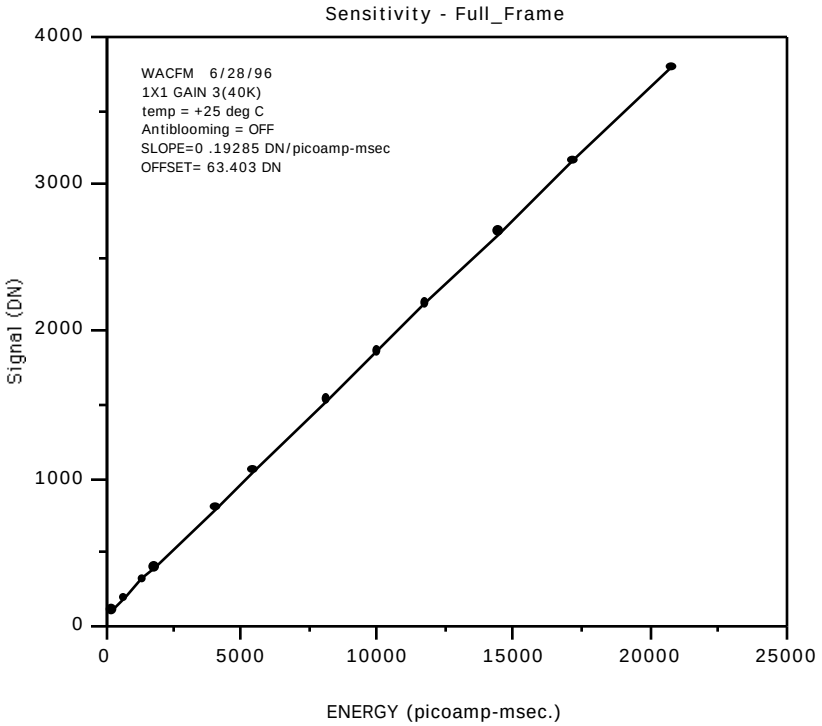
The following plots show the measurements of the signal as a function of input energy. The best linear fit to the points is shown by the plotted line. The points along the plotted line were used in the fit. Those past the line were ignored for determination of the slope.


Sensitivity - Full_Frame
WACFM 7/01/96
4X4 GAIN 0(1400K)
temp = +25 deg C
Antiblooming = OFF
SLOPE=0 .18638 DN/picoamp-msec
OFFSET= 118.722 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_503
LINKID=32 & 43

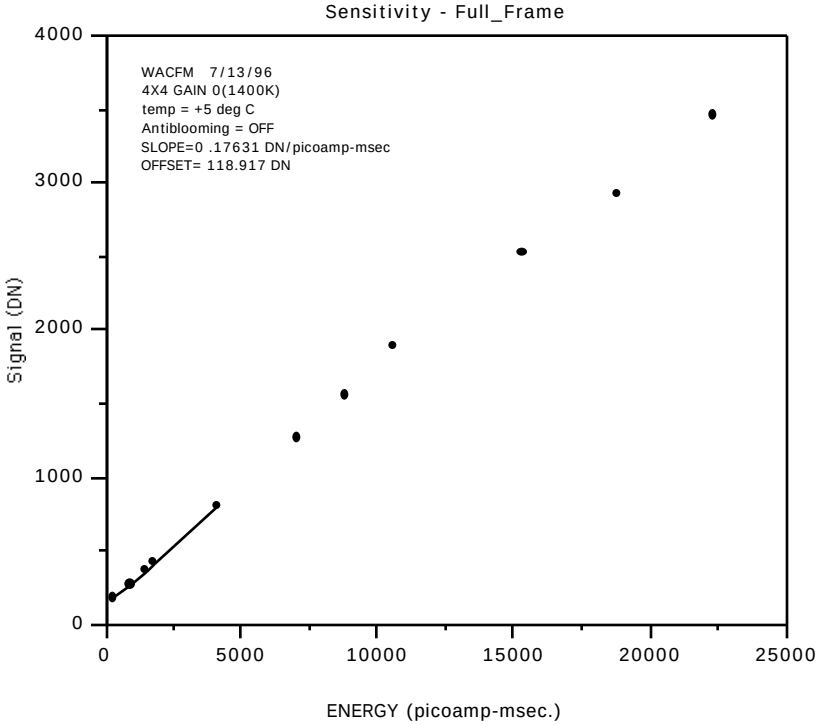

Sensitivity - Full_Frame
WACFM 6/28/96
2X2 GAIN 1(400K)
temp = +25 deg C
Antiblooming = OFF
SLOPE=0 .10045 DN/picoamp-msec
OFFSET= 77.816 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_502
LINKID=31


Sensitivity - Full_Frame
WACFM 6/28/96
1X1 GAIN 2(100K)
temp = +25 deg C
Antiblooming = OFF
SLOPE=0 .08165 DN/picoamp-msec
OFFSET= 84.363 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_501
LINKID=30

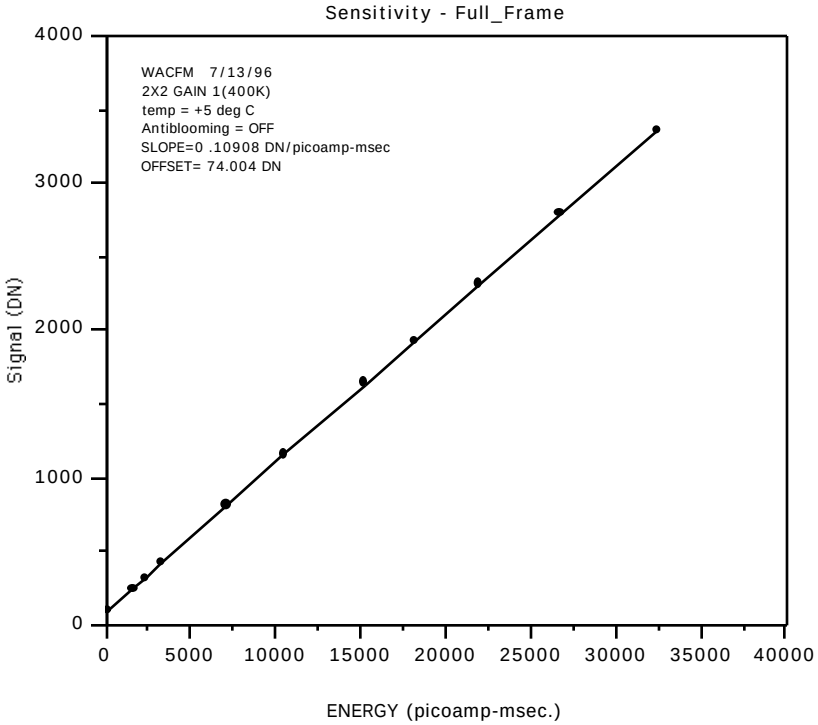

Sensitivity - Full_Frame
WACFM 6/28/96
1X1 GAIN 2(100K)
temp = +25 deg C
Antiblooming = ON
SLOPE=0 .08200 DN/picoamp-msec
OFFSET= 85.301 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_504
LINKID=33

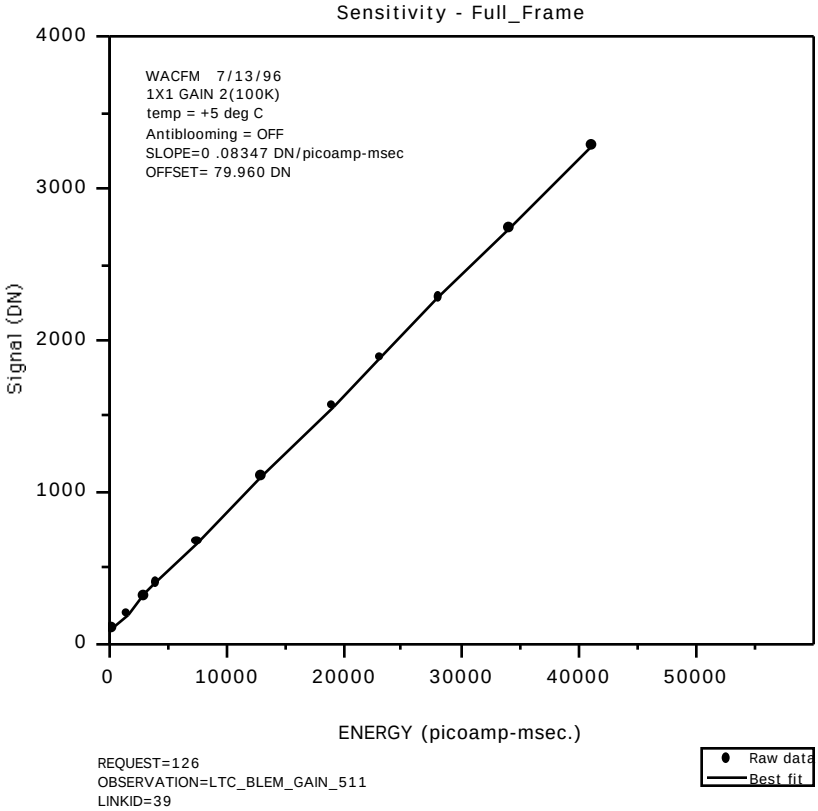


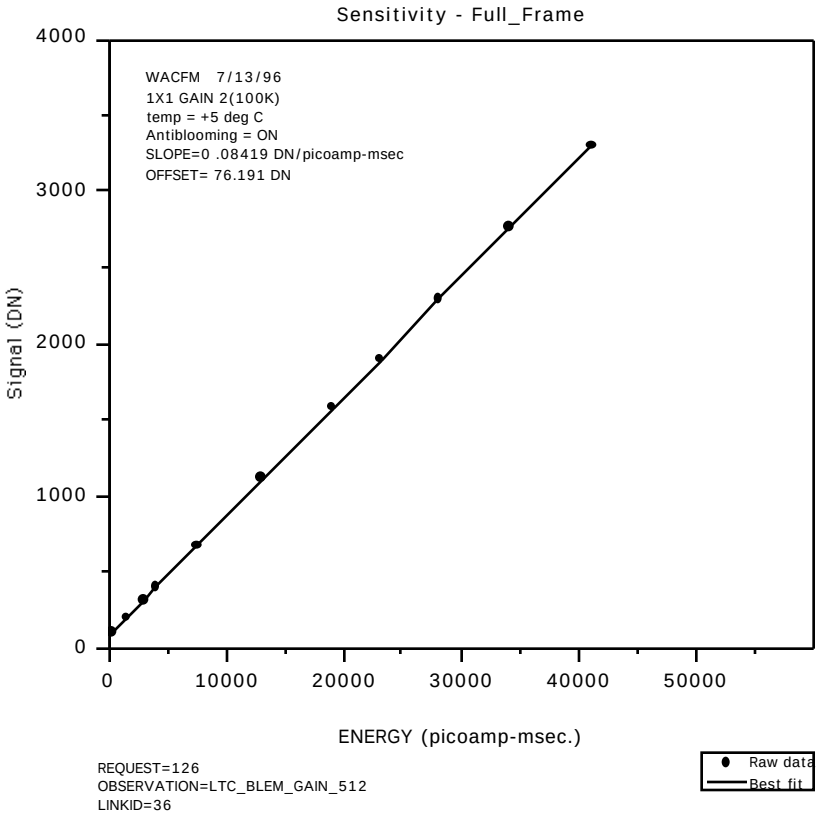
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_500
LINKID=29

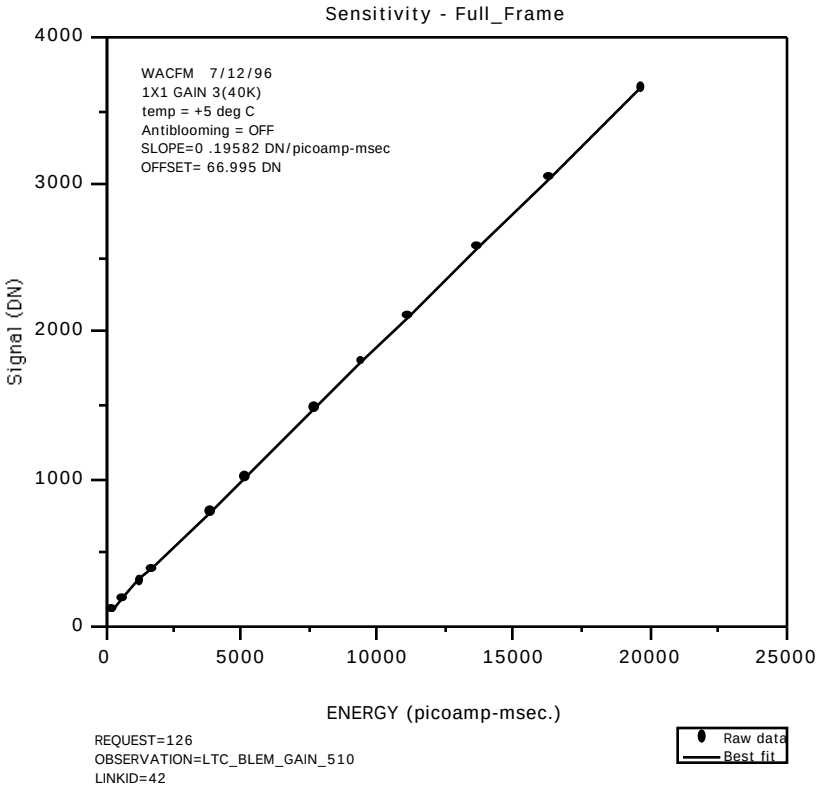


REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_514
LINKID=38 & 44


Sensitivity - Full_Frame
WACFM 7/13/96
2X2 GAIN 1(400K)
temp = +5 deg C
Antiblooming = OFF
SLOPE=0 .10908 DN/picoamp-msec
OFFSET= 74.004 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_513
LINKID=37


Sensitivity - Full_Frame
WACFM 7/13/96
1X1 GAIN 2(100K)
temp = +5 deg C
Antiblooming = OFF
SLOPE=0 .08347 DN/picoamp-msec
OFFSET= 79.960 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_511
LINKID=39


Sensitivity - Full_Frame
WACFM 7/13/96
1X1 GAIN 2(100K)
temp = +5 deg C
Antiblooming = ON
SLOPE=0 .08419 DN/picoamp-msec
OFFSET= 76.191 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_512
LINKID=36


Sensitivity - Full_Frame
WACFM 7/12/96
1X1 GAIN 3(40K)
temp = +5 deg C
Antiblooming = OFF
SLOPE=0 .19582 DN/picoamp-msec
OFFSET= 66.995 DN
Signal (DN)
ENERGY (picoamp-msec.)
Raw data
Best fit
REQUEST=126
OBSERVATION=LTC_BLEM_GAIN_510
LINKID=42

5.1.12.2.5 IMAGES USED IN SENSITIVITY ANALYSIS

Temperature = °C25

image	eventtime	observation	gain	mode	exp	radiance
126933	04:47:40.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	5	50.2
126934	04:49:9.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	5	50.2
126935	04:50:38.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	5	50.2
126936	04:51:44.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	15	50.2
126937	04:53:13.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	15	50.2
126938	04:54:42.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	15	50.2
126939	04:56:11.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	30	50.2
126940	04:57:40.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	30	50.2
126941	04:59:9.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	30	50.2
126942	05:0:15.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	40	50.2
126943	05:1:44.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	40	50.2
126944	05:3:13.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	40	50.2
126945	05:4:42.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	90	50.2
126946	05:6:11.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	90	50.2
126947	05:7:40.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	90	50.2
126948	05:8:46.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	120	50.2
126949	05:10:15.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	120	50.2
126950	05:11:44.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	120	50.2
126952	05:14:42.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	180	50.2
126953	05:16:11.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	180	50.2
126969	06:11:48.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	180	50.2
126954	05:17:17.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	220	50.2
126955	05:18:46.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	220	50.2
126956	05:20:15.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	220	50.2
126957	05:21:44.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	260	50.2
126958	05:23:13.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	260	50.2
126959	05:24:42.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	260	50.2
126960	05:25:48.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	320	50.2
126961	05:27:17.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	320	50.2
126962	05:28:46.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	320	50.2
126963	05:30:15.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	380	50.2
126964	05:31:44.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	380	50.2
126965	05:33:13.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	380	50.2
126966	05:34:19.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	460	50.2
126967	05:35:48.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	460	50.2
126968	05:37:17.0	LTC_BLEM_GAIN_500	3 (40K)	FULL	460	50.2
126840	01:17:31.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	5	50.2
126841	01:19:0.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	5	50.2
126875	02:11:31.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	5	50.2
126842	01:20:6.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	30	50.2
126843	01:21:35.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	30	50.2
126844	01:23:4.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	30	50.2
126845	01:24:33.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	60	50.2
126846	01:26:2.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	60	50.2
126847	01:27:31.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	60	50.2
126849	01:30:6.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	80	50.2
126850	01:31:35.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	80	50.2
126876	02:12:37.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	80	50.2
126852	01:34:33.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	150	50.2
126853	01:36:2.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	150	50.2
126877	02:14:6.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	150	50.2
126854	01:37:8.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	260	50.2
126855	01:38:37.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	260	50.2
126856	01:40:6.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	260	50.2
126857	01:41:35.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	380	50.2
126858	01:43:4.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	380	50.2
126859	01:44:33.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	380	50.2
126861	01:47:8.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	460	50.2
126862	01:48:37.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	460	50.2
126878	02:15:12.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	460	50.2
126863	01:50:6.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	560	50.2
126864	01:51:35.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	560	50.2
126865	01:53:4.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	560	50.2
126866	01:54:10.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	680	50.2
126867	01:55:39.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	680	50.2
126868	01:57:8.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	680	50.2
126869	01:58:37.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	820	50.2
126871	02:1:35.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	820	50.2
126879	02:16:18.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	820	50.2
126872	02:2:41.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126873	02:4:10.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126874	02:5:39.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126880	02:17:24.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126881	02:18:53.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126882	02:20:22.0	LTC_BLEM_GAIN_501	2 (100K)	FULL	1000	50.2
126973	06:59:10.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	5	42.8
126974	07:0:14.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	5	42.8
126975	07:1:18.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	5	42.8
126976	07:1:57.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	35	42.8
126977	07:3:1.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	35	42.8
126978	07:4:5.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	35	42.8
126979	07:5:9.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	50	42.8
126980	07:6:13.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	50	42.8
126981	07:7:17.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	50	42.8
126982	07:8:0.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	70	42.8
126983	07:9:4.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	70	42.8
126984	07:10:8.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	70	42.8
126985	07:11:12.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	150	42.8
126986	07:12:16.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	150	42.8
126987	07:13:20.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	150	42.8
126988	07:13:59.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	220	42.8
126989	07:15:3.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	220	42.8
126990	07:16:7.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	220	42.8
126991	07:17:11.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	320	42.8
126992	07:18:15.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	320	42.8
126993	07:19:19.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	320	42.8
126994	07:20:2.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	380	42.8
126995	07:21:6.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	380	42.8
126996	07:22:10.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	380	42.8

Temperature = °C25

image	eventtime	observation	gain	mode	exp	radiance
126972	07:23:14.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	460	47.7
126982	07:24:18.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	460	47.7
126992	07:25:22.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	460	47.7
127002	07:26:5.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	560	47.7
127012	07:27:9.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	560	47.7
127022	07:28:13.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	560	47.7
127032	07:29:17.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	680	47.7
127042	07:30:21.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	680	47.7
127052	07:31:25.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	680	47.7
127062	07:32:6.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	820	47.7
127072	07:33:10.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	820	47.7
127082	07:34:14.0	LTC_BLEM_GAIN_502	1 (400K)	SUM2	820	47.7
127402	06:33:4.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	5	58.8
127412	06:33:55.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	5	58.8
127422	06:34:23.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	15	58.8
127442	06:36:5.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	15	58.8
127462	06:37:47.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	25	58.8
127472	06:38:38.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	25	58.8
127482	06:39:8.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	30	58.8
127502	06:40:50.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	30	58.8
127522	06:42:32.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	70	58.8
127532	06:43:23.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	70	58.8
127542	06:43:53.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	120	58.8
127562	06:45:35.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	120	58.8
127582	06:47:17.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	150	58.8
127592	06:48:8.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	150	58.8
127602	06:48:36.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	180	58.8
127622	06:50:18.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	180	58.8
127642	06:52:0.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	260	58.8
127652	06:52:51.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	260	58.8
127662	06:53:19.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	320	58.8
127682	06:55:1.0	LTC_BLEM_GAIN_503	0 (1400K)	SUM4	320	58.8
126862	02:51:49.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	5	50.2
126872	02:53:18.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	5	50.2
126882	02:54:47.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	5	50.2
126892	02:55:53.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	30	50.2
126902	02:57:22.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	30	50.2
126912	02:58:51.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	30	50.2
126922	03:0:20.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	60	50.2
126932	03:1:49.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	60	50.2
126942	03:3:18.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	60	50.2
126952	03:4:24.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	80	50.2
127032	04:23:39.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	80	50.2
127082	04:32:55.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	80	50.2
126882	03:8:51.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	150	50.2
126892	03:10:20.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	150	50.2
127042	04:25:8.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	150	50.2
127022	03:14:36.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	260	50.2
126932	03:16:5.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	260	50.2
127052	04:26:14.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	260	50.2
127042	03:17:34.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	380	50.2
126952	03:19:3.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	380	50.2
126962	03:20:32.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	380	50.2
126972	03:21:38.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	460	50.2
126982	03:23:7.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	460	50.2
126992	04:34:1.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	460	50.2
127002	03:26:5.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	560	50.2
127012	03:27:34.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	560	50.2
126922	03:29:3.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	560	50.2
126932	03:30:9.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	680	50.2
127042	03:31:38.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	680	50.2
127052	03:33:7.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	680	50.2
127072	03:36:5.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	820	50.2
127082	03:37:34.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	820	50.2
127072	04:28:36.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	820	50.2
127092	03:38:40.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	1000	50.2
127102	03:40:9.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	1000	50.2
127112	03:41:38.0	LTC_BLEM_GAIN_504	2 (100K)	FULL	1000	50.2

Temperature = °C5

image	eventtime	observation	gain	mode	exp	radiance
129762	13:41:48.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	5	42.8
129777	13:43:17.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	5	42.8
129787	13:44:46.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	5	42.8
129797	13:45:51.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	15	42.8
129807	13:47:20.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	15	42.8
129817	13:48:49.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	15	42.8
129827	13:50:19.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	30	42.8
129837	13:51:48.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	30	42.8
129847	13:53:17.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	30	42.8
129857	13:54:22.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	40	42.8
129867	13:55:51.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	40	42.8
129877	13:57:20.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	40	42.8
129887	13:58:50.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	90	42.8
129897	14:0:19.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	90	42.8
129917	14:39:33.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	90	42.8
129917	14:2:53.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	120	42.8
129927	14:4:22.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	120	42.8
129937	14:5:51.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	120	42.8
129947	14:7:21.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	180	42.8
129957	14:8:50.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	180	42.8
129967	14:10:19.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	180	42.8
129977	14:11:24.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	220	42.8
129987	14:12:53.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	220	42.8
130007	14:15:52.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	260	42.8
130017	14:17:21.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	260	42.8

Temperature ≟C5							Temperature ≟C5						
image	eventtime	observation	gain	mode	exp	radiance	image	eventtime	observation	gain	mode	exp	radiance
129902	14:18:50.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	260	50.2	130408	09:36:1.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	820	50.2
129914	14:45:6.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	260	50.2	130418	09:37:30.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	820	50.2
129903	14:19:55.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	320	50.2	130428	09:38:59.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	820	50.2
129904	14:21:24.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	320	50.2	130438	09:40:4.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	1000	50.2
129905	14:22:53.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	320	50.2	130448	09:41:33.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	1000	50.2
129906	14:24:23.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	380	50.2	130458	09:43:2.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	1000	50.2
129907	14:25:52.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	380	47.7	130508	10:41:17.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	5	47.7
129908	14:27:21.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	380	47.7	130518	10:42:21.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	5	47.7
129909	14:28:32.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	460	47.7	130528	10:43:25.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	5	47.7
129910	14:30:1.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	460	47.7	130538	10:44:3.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	35	47.7
129911	14:31:30.0	LTC_BLEM_GAIN_510	3 (40K)	FULL	460	47.7	130548	10:45:7.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	35	47.7
130106	03:14:9.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	5	47.7	130558	10:46:11.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	35	47.7
130107	03:15:38.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	5	47.7	130602	10:47:16.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	50	47.7
130141	04:13:6.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	5	47.7	130612	10:48:20.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	50	47.7
130108	03:16:44.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	30	47.7	130622	10:49:24.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	50	47.7
130109	03:18:13.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	30	47.7	130632	10:50:6.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	70	47.7
130110	03:19:42.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	30	47.7	130642	10:51:10.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	70	47.7
130111	03:21:11.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	60	47.7	130652	10:52:14.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	70	47.7
130112	03:22:40.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	60	47.7	130702	10:53:19.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	150	47.7
130113	03:24:9.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	60	47.7	130712	10:54:23.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	150	47.7
130114	03:25:15.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	80	47.7	130722	10:55:27.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	150	47.7
130116	03:28:13.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	80	47.7	130732	10:56:5.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	220	47.7
130142	04:14:12.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	80	47.7	130742	10:57:9.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	220	47.7
130118	03:31:11.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	150	47.7	130752	10:58:13.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	220	47.7
130119	03:32:40.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	150	47.7	130802	10:59:18.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	320	47.7
130143	04:15:41.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	150	47.7	130812	11:0:22.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	320	47.7
130120	03:33:46.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	260	47.7	130822	11:1:26.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	320	47.7
130121	03:35:15.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	260	47.7	130832	11:2:8.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	380	47.7
130122	03:36:44.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	260	47.7	130842	11:3:12.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	380	47.7
130123	03:38:13.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	380	47.7	130852	11:4:16.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	380	47.7
130124	03:39:42.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	380	47.7	130902	11:5:21.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	460	47.7
130125	03:41:11.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	380	47.7	130912	11:6:25.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	460	47.7
130126	03:42:17.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	460	47.7	130922	11:7:29.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	460	47.7
130127	03:43:46.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	460	47.7	130932	11:8:11.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	560	47.7
130128	03:45:15.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	460	47.7	130942	11:9:15.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	560	47.7
130129	03:46:44.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	560	47.7	130952	11:10:19.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	560	47.7
130130	03:48:13.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	560	47.7	131002	11:11:24.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	680	47.7
130131	03:49:42.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	560	47.7	131012	11:12:28.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	680	47.7
130132	03:50:48.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	680	47.7	131022	11:13:32.0	LTC_BLEM_GAIN_513	1 (400K)	SUM2	680	47.7
130133	03:52:17.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	680	47.7	131032	12:28:44.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	5	58.8
130144	04:16:47.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	680	47.7	131042	12:29:35.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	5	58.8
130135	03:55:15.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	820	47.7	131052	12:30:26.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	5	58.8
130137	03:58:13.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	820	47.7	131102	12:30:53.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	15	58.8
130145	04:18:16.0	LTC_BLEM_GAIN_511	2 (100K)	FULL	820	47.7	131112	12:31:44.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	15	58.8
130150	08:53:26.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	5	47.7	131122	12:32:35.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	15	58.8
130151	08:54:55.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	5	47.7	131132	12:33:27.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	25	58.8
130152	08:56:24.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	5	47.7	131142	12:34:18.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	25	58.8
130153	08:57:29.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	30	47.7	131152	12:35:9.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	25	58.8
130154	08:58:58.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	30	47.7	131202	12:35:38.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	30	58.8
130186	09:53:17.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	30	47.7	131212	12:36:29.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	30	58.8
130156	09:1:56.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	60	47.7	131222	12:37:20.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	30	58.8
130157	09:3:26.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	60	47.7	131232	12:38:12.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	70	58.8
130158	09:4:55.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	60	47.7	131242	12:39:3.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	70	58.8
130159	09:6:0.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	80	47.7	131252	12:39:54.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	70	58.8
130161	09:8:58.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	80	47.7	131302	12:40:23.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	120	58.8
130187	09:54:23.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	80	47.7	131312	12:41:14.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	120	58.8
130162	09:10:28.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	150	47.7	131322	12:42:5.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	120	58.8
130163	09:11:57.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	150	47.7	131332	12:42:57.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	150	58.8
130164	09:13:26.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	150	47.7	131342	12:43:48.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	150	58.8
130166	09:16:0.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	260	47.7	131352	12:44:39.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	150	58.8
130188	09:55:29.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	260	47.7	131402	12:45:6.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	180	58.8
130189	09:56:58.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	260	47.7	131412	12:45:57.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	180	58.8
130168	09:18:59.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	380	47.7	131422	12:46:48.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	180	58.8
130170	09:21:57.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	380	47.7	131432	12:47:40.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	260	58.8
130171	09:23:2.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	460	47.7	131442	12:48:31.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	260	58.8
130172	09:24:31.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	460	47.7	131452	12:49:22.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	260	58.8
130173	09:26:0.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	460	47.7	131502	12:49:49.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	320	58.8
130174	09:27:30.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	560	47.7	131512	12:50:40.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	320	58.8
130175	09:28:59.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	560	47.7	131522	12:51:31.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	320	58.8
130176	09:30:28.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	560	47.7	131532	12:52:23.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	380	58.8
130177	09:31:33.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	680	47.7	131542	12:53:14.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	380	58.8
130179	09:34:31.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	680	47.7	131552	12:54:5.0	LTC_BLEM_GAIN_514	0 (1400K)	SUM4	380	58.8
130190	09:58:4.0	LTC_BLEM_GAIN_512	2 (100K)	FULL	680	50.2							