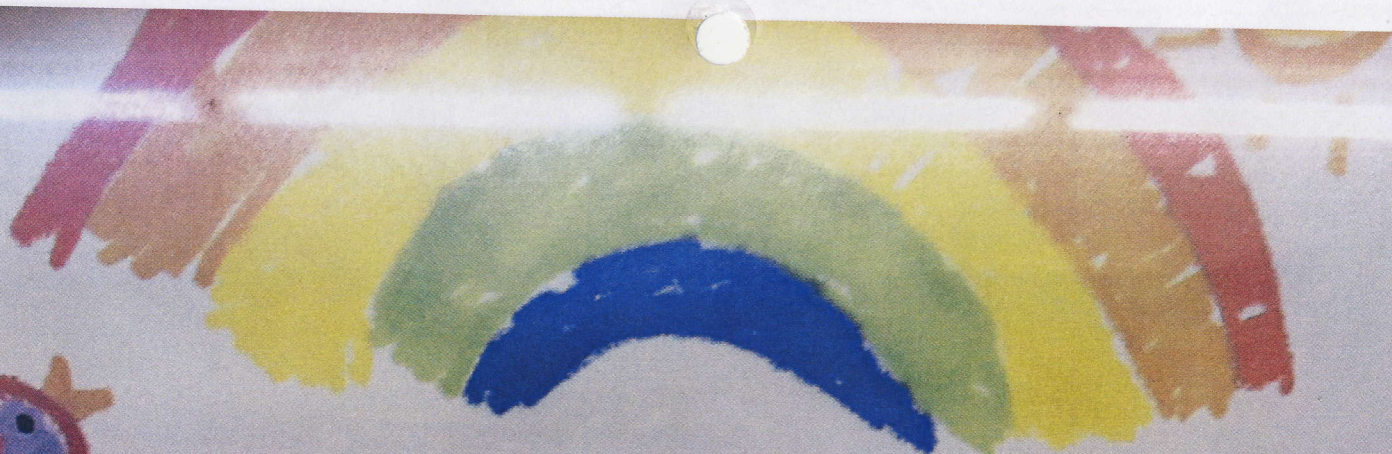
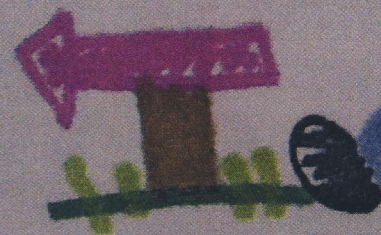




Dear God,
Please Send Dennis Clark
to a different camp
this year.

Peter



Please Send

Oahu 13 Fork Layout

Table 1. Top view of fork, Sept 12 GMT (11th HST) to date [Sept 15/16 GMT (15th HST)]. The origin is where the crossbar intersects the center tine, x (positive in the tine direction) and y (positive to the right). The (x,y) are the aperture locations in the plane of the fork.

Tine	Aper. #*	x [cm]	y [cm]	Disk diam [cm]	Fiber #	Track #
Leftmost	1	152.5	236	32	F2	3
	2	153	78	7	F3	5
Center left	3	175	4.5	BF deep	F4	7
Center right	4	175	-4.5	BF shlw	F5	9
	5	157	-78.5	16	F6	11
Rightmost	6	156	-236	24	F7	13

*using Jim's numbering system (he looked up from underneath).

The central tine is 2.54 cm in diameter. The BF deep is 49.5cm from the top of the central tine; the BF shallow is 9.3 cm from the top of the central tine.

For the two bare fiber apertures on the central tine, the x distance from the end of the tine to the aperture is about 41cm (was marked ~36cm in the earlier drawing).

On the first three days, the BF deep had a tendency to rotate about z up to about 30deg so it was pointing towards aperture 1. This is because of the prevailing conditions. Terry worked on stabilizing this structure.

On Sept 15 HST (Saturday) the first five floats were painted black. The SMA connector on the disks was adjusted to make it flush to avoid trapping bubbles (the offset was about a millimeter).

Subject: channel assignments

From: "Johnson, B. Carol" <carol.johnson@nist.gov>

Date: Thu, 6 Sep 2012 03:01:07 -0400

To: "yarbrough@mlml.calstate.edu" <yarbrough@mlml.calstate.edu>, "clark.dk@gmail.com" <clark.dk@gmail.com>, "twinsf2@gmail.com" <twinsf2@gmail.com>, "feinholz@mlml.calstate.edu" <feinholz@mlml.calstate.edu>

CC: "Johnson, B. Carol" <carol.johnson@nist.gov>

Here is my input:

we have:

white LED going into each spec at the shutter block using the fiber splitter;

Es (semi-long fiber) to MOBY Es collector;

on the fork:

bare fiber ~ 8 cm down

bare fiber ~ 50 cm down

D1, D2, D3, & D4

The track that is half-way off is Track 14.

Track 1 == Es

Track 3 == BF (8)

Track 5 == BF (50)

Track 7 == D1

Track 9 == D2

Track 11 == D3

Track 13 == D4

Track 14 == white LED via shutter block (note this will put off ccd light into the specs)

This avoids the "bad track" 12 in the blue spec. Except for Track 13 & 14, it gets us a blank track between each so this should help the cross track scattering. I guess we could shutter track 14 when the fork is collecting data, and do a sequence like LED / Darks / Lights / Darks / LED sort of like in MOS. I don't think the order of the BF or D long fibers matters.

What do you think, did I get all the inputs?

Carol

Subject: disk sizes

From: "Johnson, B. Carol" <carol.johnson@nist.gov>

Date: Thu, 6 Sep 2012 15:40:46 -0400

To: "thoulihan@mlml.calstate.edu" <thoulihan@mlml.calstate.edu>, "yarbrough@mlml.calstate.edu" <yarbrough@mlml.calstate.edu>, "feinholz@mlml.calstate.edu" <feinholz@mlml.calstate.edu>, "twinsf2@gmail.com" <twinsf2@gmail.com>, "clark.dk@gmail.com" <clark.dk@gmail.com>, "jim1chors@att.net" <jim1chors@att.net>

We will use the same as Kaiser -- 32, 24, 16, and 7 cm diameter. Mueller says to put the larger disk on the outside tines, so the sequence would go 32, 16, BF, BF, 7, 24 for example.

Dennis said for Andor we substituted one disk, Steph looked it up and we think it was the 56 cm. The Andor only had four tracks so there were three disks and one bare fiber.

Carol

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT NIST-2012-04 LOCATION Col Van, MT
 DATE 07 Sep 2012 OBSERVERS MF, BCJ, SF
 INSTRUMENT Resonon S/N CONFIG
 COLLECTOR bare Romack Fibers mux position fiber DISTANCE 1.036 m
 SOURCE OL 420 S/N CONFIG (L50) S3WSD100
 PWR SUPPLY OL 65DS S/N CONFIG
 MULTIMETER 34970A S/N SHUNT 6S125
 LAMP VOLTAGE CURRENT 6.5
 LAMP TIME ON WARMUP 20 OFF TOTAL

WHERE NODE :: DEV : [DIR]

SETUP SKETCH / REMARKS

03:51 → 04:00 = ~24°C → -70°C CC temp

Lamp time hours
 ON 04:54 589.2
 OFF 541 599.0

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
03:51	INIT, -70°C set						
519	B2012090701	1 sec	6.5066	7.4617			
523	overwrite		5069	4634			room after off
529	R 01	0.3 sec	5076	4611	53	19.9	
32	B 02	1.0	5077	4609	54	20.0	
35	R 02	0.3	5072	4626			
37	B 03	1.0	5069	4630			
40	R 03	0.3	5068	4636			

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT NIST-2012-04 LOCATION Cal Van
 DATE 08 Sep 2012 OBSERVERS MF, MY
 INSTRUMENT Resonans S/N CONFIG
 COLLECTOR bare Romack FOS mux position fiber DISTANCE 1036
 SOURCE 02420 S/N CONFIG (120)WSD100
 PWR SUPPLY 0265DS S/N CONFIG
 MULTIMETER >34970A S/N SHUNT 65125
 LAMP VOLTAGE CURRENT 6.2
 LAMP TIME ON WARMUP 20 OFF TOTAL

SETUP SKETCH / REMARKS

Lamp Time hours
 ON 01:04 599.0
 OFF 1:48 590.7

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
00:31	INIT @ -70 °C						
01:32	B2012090801	1.0	6.5064	7.4614	49	22.8	
134	R 01 0.3		5065	4629			
141	B 02						
143	R 02						
144	B 03		6.5077	4602			
147	R 03						
			via BCJ's Ocean Optics sphere = "RSL2"				
2:35	B/R-thorlab LED 0.2	0.3s	MCWH L2 S/N: M00248703				Romack FO #14 only Thorlabs white LED
303	B/R-cypress LED 01	0.3	X=3051 Y=.3309 bright=19.9				Cypress Easy Color LED source
			Front of LED	52 10			PC ctrl

repeat = #3



Sat Page 4 of

MLML RADIOMETRIC CALIBRATION LOG			
EXPERIMENT	NIST-2012-04		LOCATION Col Van
DATE	08 Sep 2012	OBSERVERS	MF
INSTRUMENT	Resonon	S/N	CONFIG
COLLECTOR	Romack Fibers		DISTANCE 1.036 in
SOURCE	0L420	S/N	CONFIG (L10)S3WS D100
PWR SUPPLY	0L65D\$	S/N	CONFIG
MULTIMETER	>34970A	S/N	SHUNT GS125
LAMP VOLTAGE		CURRENT 6.5	
LAMP TIME	ON	WARMUP 20	OFF TOTAL
WHERE NODE :: DEV : [DIR]			

SETUP SKETCH / REMARKS

Comp time has
ON 21:50 590.7
OFF 23:13 592.1

ALSO Today changed:
Added A/D chan info
to .txt file header.

Moved Ambient °C & %RH
to A/D chan # 4 & 5
was on # 3, 4 = bad %RH

FO # 14 = disconn!
...for LED mon

FO # 1 & 7 were dis &
re-conn yesterday
after 0L420 scans
to get at FO 14 for LED

And, I capped the
centre empty SMA
on the 420/FO Jig

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
21:35	INIT				58	20.9	
22:43	B20120908 04	1s	6.5067	7.4660	59	24.5	FO # 14 = OFF
22:46	R 04	0.3s					
23:05	B 05	1.0	5069	4643	48	22.2	FO # 14 = ON
23:04	R 05						
06	B 06		5066	4550			
08	R 06						
10	B 07		5066	4662			
11	R 07						

LED repeat #2

Sat Page 5 of

MLML RADIOMETRIC CALIBRATION LOG				SETUP SKETCH / REMARKS	
EXPERIMENT	NIST-2012-04		LOCATION	Cal Van	
DATE	09 Sep 2012		OBSERVERS	MF	
INSTRUMENT	Resonon	S/N	CONFIG		
COLLECTOR	FOA 14 only		DISTANCE		
	mux	position	fiber		
SOURCE	LEDs	S/N	CONFIG		
PWR SUPPLY		S/N	CONFIG		
MULTIMETER		S/N	SHUNT		
LAMP VOLTAGE		CURRENT			
LAMP TIME	ON	WARMUP	OFF	TOTAL	
WHERE NODE :: DEV : [DIR]				PROCESSED DATE: _____ BY: _____	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
00:21	BypassLED_2012090901	0.3	x=.3052 y=.3310 bright=199				bypass LED source
24	R 01	0.3			53	24.2	
34	B 02						mistakenly pwr cycled LED
36	R 02						
38	B 03						
39	R 03						
43	DThorlab ... 01	0.3					Thorlab LED
45	R 01						
47	B/A 02						
53	D/A 03						

Today: Mark reversed polarity for all 14 Red Shutter
Mark replaced bad shutter #5 on Red block



The beam splitter and shutter blocks are in place, Track 1- 13

Page 1 of

MLML RADIOMETRIC CALIBRATION LOG				
EXPERIMENT	Pre Oahu-13		LOCATION Cal Van, HI	
DATE	10 Sep 2012	OBSERVERS	MF, MY, BCJ	
INSTRUMENT	Res X2	S/N	CONFIG	02
COLLECTOR	bare Fibers		DISTANCE	Jig @ 1.036 in
SOURCE	OL420	S/N	CONFIG	(L10) WSD100
PWR SUPPLY	OL6SDS	S/N	CONFIG	
MULTIMETER	>34970A	S/N	SHUNT	G\$125
LAMP VOLTAGE		CURRENT	6.5	
LAMP TIME	ON	WARMUP	20	OFF TOTAL
WHERE NODE :: DEV : [DIR]				

SETUP SKETCH / REMARKS	
Comp time hours	Track # 14 = Thorlabs LED via Ocean Optics bifurcated FO # 00S-001887-03
ON 02:32	
OFF 4:20 598.9	
track Fiber	
1 to be Es / not conn yet	
3 2	
5 3	
7 4	
9 5	
11 6	
13 7	
14 LED Thorlabs	
PROCESSED DATE:	BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current	Lamp Voltage	Humidity	Temp.	OPEN FOs	Remarks
			mA	V	% R.H.	°C		
03:03	B 20120910 001	2/1	6.5074	7.4586	53	18.6	211	52.1/45.7k
340	002	2/6	5066	4644	60	22.8	all	Red FO 14 vis reduced
344	3	2/6	5067	4653			T14 off	
347	4	8/6					14 off	
33	5	8/6	5076	4626			ONLY 13 ON	
56	6	8/6	5071	4636			11 ON	
400	7	8/6	reset Cont Clean = ON!				9 ON	
03	8	8/6					7	
07	9	8/6	5068	4655			5	
10	10	8/6					3	
14	11	8/6	5076	4634			ONLY 14 OFF / ALL ON	

4:17 23 12 8/6 13 2/6 ALL OFF / 420 still ON (21-Feb-05 MF) ONLY 14 ON / 420 = OFF

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Pre-Oahu 13 LOCATION Col Van, HI
 DATE 10 Sep 2012 OBSERVERS MF, BCJ
 INSTRUMENT 2x Resonon S/N CONFIG 02
 COLLECTOR mux position fiber DISTANCE 0.420 jig
 SOURCE Laser/Pen lamp S/N CONFIG Spectralon sphere
 PWR SUPPLY S/N CONFIG
 MULTIMETER S/N SHUNT
 LAMP VOLTAGE CURRENT
 LAMP TIME ON WARMUP OFF TOTAL

WHERE NODE :: DEV : [DIR]

SETUP SKETCH / REMARKS

Es hood #25
 Imm? FO##
 FC jumper FO#14
 to track #1

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
19:08	INIT						
21:02	20121010_14	0.3 sec					407 nm laser
15	15	0.6					632.8
38	16	0.6/10					Hg A
56	17	1.5/0.5					Ne
22:12	18	0.2/.3					Es only ON cloudy
	19						

Oahu 13, day #1 / stn 01

11 Sep 2012, MF

o cameras back on @ 19:15

Shutter Power Supply, Red, 24V RFP
removed pwr sup & Red Shtr ctrl cord / box
mark replaced 1x 24V sup

o cameras back on @ 21:02

Mark bought 1 Honda EU3000 generator + inverter

o cameras back on @ 21:53 leaving the dock

ON Board

Capt: Robert

Mate: Nahu

Chief Sci Mark Yarbrough

NOAA: Mike Ondrusek

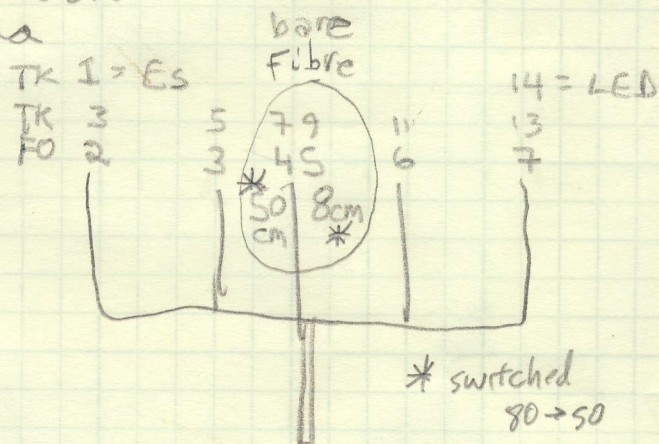
MLML: Darryl Peters, Terence Houlahan, Mike Feinholz

@ Dock: NIST: BC Johnson
MLML: S. Flora

22:49 GoPro #4 ON
50 CTD on Deck

23:40 Fork in H₂O

01:05 Fork on Deck



OCEANOGRAPHIC FIELD LOG		Intr #	S/N
MOSS LANDING MARINE LABORATORIES			
CRUISE 02hu 13	STATION No. 01, Shakedown		
DATE 12 Oct 2012	STATION NAME Hapo		
OBSERVERS	VESSEL		
TIME 00:31 zone	LATITUDE 21° 14.812' N	LONGITUDE 157° 54.793' W	
WIND 6.6 m/s avg knots 67 deg	WAVES 4' 8 sec ft	CLOUDS % cover	type

[illegible]

Oahu 13 day #2 / Stn 02

Thur 13 Sep 2012

3

Mark told me to run WinView
he says the cameras are not cooling

had to run detector wizard

camera 1 seems to be blue
12 red

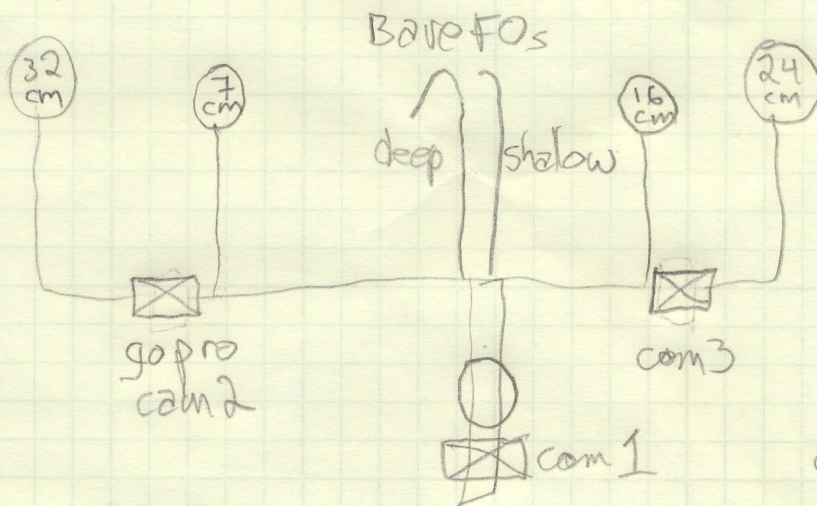
19:14 R dark test

Mark only wants dark scans via WinView

Mark wants 1 min dark scan, 19:51

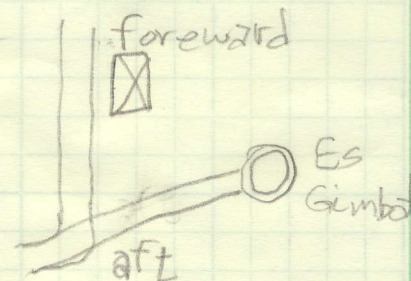
22:09 TH restarted camera #4 (sky view)

today's Fork cFg:



these discs come from
Dennis, had weights
attached which were
removed & holes plugged
& center holes tapped
for SMA conns
by Terrence

cam 4 on rail



Today

same Capt Bob, Mate Nahu
same NOAA Mike O.
same MML Chief Mark Y.
same MML Darryl P, Terry H., Mike F.

OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES

S/N

CRUISE Oahu 13

STATION No. *during - Col*

DATE 13 Sep 2012

STATION NAME *Swig Harbour dock*

OBSERVERS MF, MY, BCJ

VESSEL Hapa

zone

LATITUDE

21° 19.026' N

LONGITUDE

157° 53.169' W

CLOUDS

10 knots deg

 $\varnothing$ ft

% cover	type
100	100
90	90
80	80
70	70
60	60
50	50
40	40
30	30
20	20
10	10
0	0

type

Red FO # 1 iris for Es
stopped down to almost closed

Mark repaired Red Shutter control cord; replaced all driver & inverter chips

Es on Gimbai
6x FOs attached to NPR 14 FO jig
~ 8.5 in above Gray Plague 10, 15%

[illegible]

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT during - Oahu L3 LOCATION Snugg Harbour Dock
 DATE 13 Sep 2012 OBSERVERS MF, BCJ, SF, lora
 INSTRUMENT 2x Resonance S/N CONFIG 02
 COLLECTOR bare FOs mux position fiber DISTANCE Jig @ 0.39 in
 SOURCE 0L455 S/N CONFIG
 PWR SUPPLY 0L450 S/N CONFIG
 MULTIMETER NOPE S/N SHUNT NOPE
 LAMP VOLTAGE CURRENT 5.5
 LAMP TIME ON WARMUP 20 OFF TOTAL

SETUP SKETCH / REMARKS

Lamp time Amin
 ON 07:25
 OFF 8:37

SF please set unused FO to 0 in .txt hdr

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current FL	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
07:45	20120913_031	.2/.1	7222 @ 20k gain				micron = 5.0 = VXR Transfer setting
49	...	5	"				
50	36-38	"	0114 @ 20k gain				shutter = Ambient
806	39-43	2/6					micron = 1.0
811	44-46	"					shutter / Ambient
819	47	.2/.1	72120				micron = 5.0
826	48	"					T14/LED = OFF
28	49						only T14/LED = ON
30	50						only T13 ON
31	51						T11
32	52						T9

... cont

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MLML RADIOMETRIC CALIBRATION LOG					SETUP SKETCH / REMARKS
EXPERIMENT		LOCATION <i>Hapa @ dock</i>			
DATE <i>13 Sep 2012</i>	OBSERVERS				
INSTRUMENT	S/N	CONFIG			
COLLECTOR		DISTANCE			
	mux	position	fiber		
SOURCE	S/N	CONFIG			
PWR SUPPLY	S/N	CONFIG			
MULTIMETER	S/N	SHUNT			
LAMP VOLTAGE	CURRENT				
LAMP TIME ON	WARMUP	OFF	TOTAL		
WHERE NODE :: DEV : [DIR]					
PROCESSED DATE:				BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
08:33	20120913-053	.2/.1					only T7=ON
34	54						T5
35	55						T3
	56						

day #2 = Thursday (local)

Page 3 of

OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE <i>Oahu 13</i>		STATION No. <i>02</i>		<i>same Capt: Bob Mate: Nalu</i>	
DATE <i>13 Sep 2012</i>		STATION NAME <i>walkiki 01</i>			
OBSERVERS <i>MF</i>		VESSEL <i>Hapz</i>			
TIME	LATITUDE	LONGITUDE			
zone					
WIND	WAVES	CLOUDS			
knots deg	ft	% cover	type		

Filename	BLUE int(s)	RED int(s)	Comments		
Rwinviewdarktest01		1sec	19:14 #files = 6	Res shutters = closed	/ PIXIS shut = normal
R	02	1sec	19:18	"	shut = closed
B	01 1sec		19:21	"	normal
B	02 1sec		19:23	"	closed
			Startup LabView 209.		
Blobviewdarktest001	1sec		19:33	Res shutters = closed	/ PIXIS shut closed
B	002		19:37	"	normal
R	001	1sec	38	"	"
R	002	1sec	38	"	closed
Blobviewdarktest003	10sec		19:56	all shut closed, 2dk/5lt/2dk	
R	003	10sec	19:59	"	"
R	004	30s	20:02	"	only 2dk
B	004 30s		20:04	"	only 2dk
B	005 60s		20:06	"	1dk
R	005		20:07	"	1dk

Page 41 of

Filename	BLUE int(s)	RED int(s)	Comments
Blabviewdwktest1-006	1 sec	20:20	2dk/2st/2dk, all shut closed, 100 k Hz speed
R 006		1 sec	20:26
			< BACK to 2 MHz read speed >
B 20120913_001	2	8	20:40
002	2	6	20:46
003...	1.5	7	48 100% clouds, rain over Waikiki
008...			20:57 6.9 m/s 63° 1 min avg wind speed
020...			21:20 6.1 53
031...			21:42 re-adj fork tether length (bow end)
38			21:56 sun's out!
39	1.0	6	21:58 adj fork-stern tag line taken in, 1 to sea
			22:14 pocket in, barge coming, no holes
			22:20 Fork on deck
			22:50 @ dock

Email from Carol on: 9/6/2012 12:01 AM; Subject channel assignments

Here is my input:

we have:

white LED going into each spec at the shutter block using the fiber splitter;

Es (semi-long fiber) to MOBY Es collector;

on the fork:

bare fiber ~ 8 cm down

bare fiber ~ 50 cm down

D1, D2, D3, & D4

The track that is half-way off is Track 14.

Track 1 == Es

D1 Track 3 == BF (8)

D2 Track 5 == BF (50)

BF 4 Track 7 == D1

BF 8 Track 9 == D2

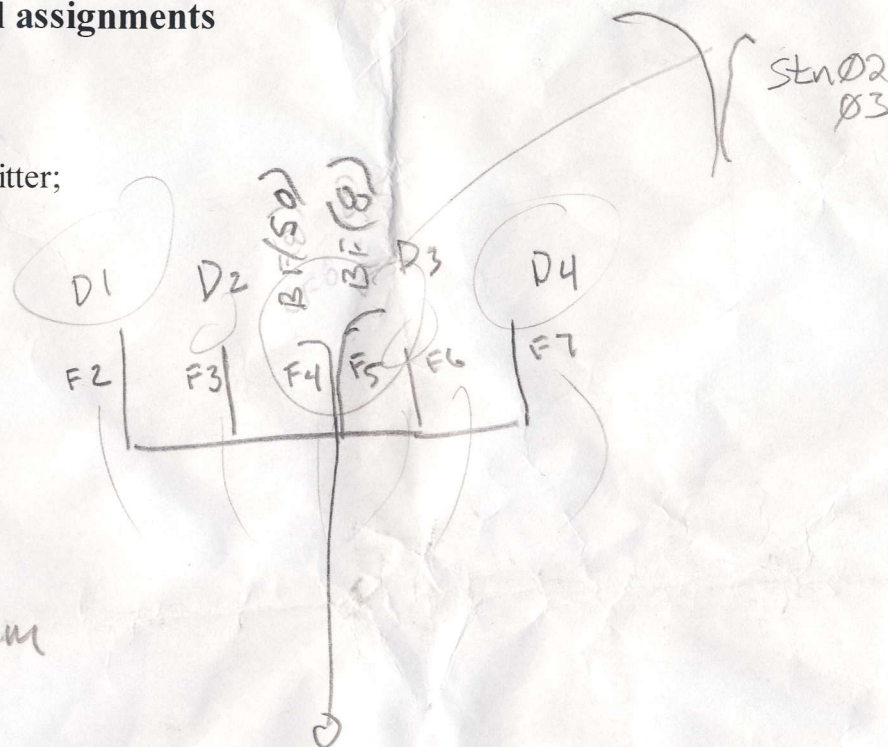
Track 11 == D3

Track 13 == D4

Track 14 == white LED via shutter block (note this will put off ccd light into the specs)

F2
F3
F4
F5
F6
F7

Big Disk = OUTSIDE ARM
SMALL DISK
SMALL DISK
BIG DISK = OUTSIDE ARM



This avoids the "bad track" 12 in the blue spec. Except for Track 13 & 14, it gets us a blank track between each so this should help the cross track scattering. I guess we could shutter track 14 when the fork is collecting data, and do a sequence like LED / Darks / Lights / Darks / LED sort of like in MOS. I dont think the order of the BF or D long fibers matters.

What do you think, did I get all the inputs?

Carol

17:32 Cameras ON

NOTE: FO #04 / Trk #7 = deep bore FO (44 cm)
FO #05 / Trk #9 = shallow " " (5 cm)

we thought shallow/deep were reversed
& they may have been on day #1 / Stn 01?
need to check data & look for photos @ day #1

19:00 leave dock, some personell as day #1 & 2

asper BCJ email 06 Sep 2012, today we will try to
"shutter track 14 when the fork is collecting data"

20:17 on stn 1800 ft bottom
Mark adj shallow FO ~ 2 cm deeper

21° 6.287' N 157° 53.903' W

Stn 03 = offshore Honolulu

Fork in H₂O @ 20:57

5.8 m/s @ 61° wind, 80.4° F air temp

- ☐ @ look @ B vs R tristemp @ 1 vs 10 sec exposure
- ☐ Need to figure out parallel PIXIS scanning!
Free Run vs Sync?

- ☐ take some Gain 1, 2 data

I forgot to turn the LED back on & take scans!

day #3, Friday (?)

Page 5 of

OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES			Intr #	S/N
CRUISE Oahu 13	STATION No. 03		Rain & Clouds @ dock early AM 17:32 PIXIS cameras on @ -70°C CCD Acq Prg = 04a CamApp-MF.vi rev 14 Sep 2012 shtr ctrl via HP laptop ShutterSet.vi	
DATE 14 Sep 2012	STATION NAME Offshore Honolulu			
OBSERVERS MF	VESSEL Hapa			
TIME 20:17 GMT zone	LATITUDE 21° 6.277' N	LONGITUDE 157° 53.884' W		
WIND knots deg	WAVES ft	CLOUDS % cover type		

Filename	BLUE int(s)	RED int(s)	Comments
R20120914_001:003	1.0	0.5	21:04 LEDs = ON
004:006	1.0	0.5	21:09 LEDs = OFF, solidly in the clouds right now
007...	1.5	0.75	21:16 shutter o/c in hdr. txd files bogus
013...	1.5	0.75	21:24
017	1.5	0.75	21:35
020	1.0	10.0	21:40 oops - Red was 3k... now 30k ADU! Wind 6.4 m/s 93° M 80.6°F
22			44 getting cloud hole (Mile 0.)
26	1.0	10.0	53 sun is out
33			22:07 6.0 m/s, 84° M, 78.4°F, 21° 6.873' N, 157° 55.461' W
38			22:19 clouding
39			22:22 adj fork angle, 30° clockwise Back in the sun
42			22:30 6.7 m/s, 62° M, 78.0°F
44			39 some cloud on sun
			22:56 on deck
			★ deep bare FO not vertical = 30° from horizontal @ recovery
			i.e. the deep bare-FO collector changed depth config during deployment

MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

Lamp time Amin
ON 05:36
OFF 6:41

EXPERIMENT Oahu L3, During Cal 02 LOCATION Hapa @ Snug dock
DATE 15 Sep 2012 OBSERVERS MF, BCT, SF
INSTRUMENT 2x Resonon S/N CONFIG 02
COLLECTOR Es mux position fiber DISTANCE 50cm
SOURCE GS5000 S/N CONFIG F600 (c2)
PWR SUPPLY 6030A S/N CONFIG
MULTIMETER S/N SHUNT GS125
LAMP VOLTAGE 34970A CURRENT 8.2
LAMP TIME ON WARMUP 20 OFF TOTAL

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
04:30	PIXIS ON						
05:51	B20120915-F600_001 R ... 003	1/1 sec	Bmax = 25700 R = 3300		57	27.1	only T14/LED = ON
06:04	004:006	1/1 sec	8.2035	107.44	58	26.8	only T1/ES = ON Max ADU 1900/1400 16900/7700
06:06	007:009	10/10	2034	45			
06:18	010 	20/20	2035	45			
26	restart	20/20	2037	45			1dk/3dk/1dk 33.2/14.7
633	011:13	1/1	2038	45			T1 & T14 = ON
713	B20120915-HgA_001 R	3/10	+100mV				HgA on @ 07:08 to
725	-Ne_001	5/3	+100mV				Ne on @ 7:19 to

Oahu 13, day #4

Sat 15 Sep 2012, MF

4

last night Es cal via FEL-F600(c2), H₂A, Ne
by BCJ, SF, MF, pau @ 10 PM
seemed like VERY LOW ADU via FEL!

this morning MF re-gimbaled Es collector

17:40 = cameras ON

Fork Cfg Δ : The female SMA connectors on shadow discs
had not been threaded in enough - such that an air bubble
could be trapped @ tip of FO. This morning Mark screwed
in the SMAs on shadow discs so that the tip of FOs are now
flush w/ bottom of discs. Also 5 floats nearest Fork
painted black = on center tether w/ FOs

Mark thinks maybe we should scan @ Gain = 1?

20:09 on station 04 = Offshore Honolulu II
21° 10.120' N, 157° 58.684' W

Hyperpro & CTD

Reposition boat

20:53, 21° 9.659' N, 157° 58.968' W
Stn 05', Offshore Honolulu III

deep FO tip "lightly kissed the deck" during Fork deployment
Added 2x small hose clamps to reduce FO-holder twist

23:00 swapped 32cm Fork disc w/ 50 cm

00:25 @ recovery, deep FO looked straight down still

Day # 4

Cool, Steph, Nilsa calibrated last night Es via FEL-F600, HgA, Ne

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE 02hr 13		STATION No. 04		17:40 cameras on	
DATE 15 Sep 2012		STATION NAME Offshore Honolulu II		Fork Cfg change today:	
OBSERVERS MF		VESSEL Hapa		Female SMA connectors on shadow discs were not flush w/ bottom of disc leaving a well to potentially collect bubbles - Mark screwed in the SMAs to flush the fiber tip w/ bottom of disc.	
TIME 20:09	GMT zone	LATITUDE 21° 10.120' N	LONGITUDE 157° 58.684' W		
WIND	WAVES	CLOUDS	Mark wants to try Gain = 1 today		
knots	deg	ft	% cover	type	
			Also: black painted 5 floats nearest Fork on center / FO tether		

Filename	BLUE int(s)	RED int(s)	Comments	Readout msec	ADC offset
B 20120915_darktest001	1sec	19:17	all shut closed, 2MHz, Gain=3	500	1187
	002	19:18	100kHz, Gain=3	10,000	1878
	003	19:21	100kHz, Gain=2	10,000	1856
	004	19:24	100k Gain=1	10,000	1846
	005	19:28	2MHz Gain=1	500	1332
B	006 1sec	19:31	2M Gain=2		1539
R	001	1sec 19:32	2M G1		1878
	002	33	2M G2		1834
	003	34	2M G3		1768
	004	35	100k G3	10,000	1885
	005	38	100k G2		1859
R	006 1sec	19:40	100k G1		1885

Day #4 ...cont...

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE <i>Oahu 13</i>	STATION No. <i>05</i>		<i>reposition boat, after Hyperprobe & CTD</i> <i>Fork in @ ~21:10</i> <i>NOTE: deep bare FO lightly kissed the deck during setup while attaching 2x hose clamps to secure deep FO arm angle</i> <i>22:26 = LAN, 1700 ft bottom</i>		
DATE <i>15 Sep 2012</i>	STATION NAME <i>Offshore Honolulu II</i>				
OBSERVERS <i>NF</i>	VESSEL <i>Hapa</i>				
TIME <i>20:59</i>	LATITUDE <i>21° 9.704' N</i>	LONGITUDE <i>157° 59.069</i>			
WIND knots deg	WAVES ft	CLOUDS % cover type			

Filename	BLUE int(s)	RED int(s)	Comments
<i>B 20120915-001:00</i>	<i>1</i>	<i>5</i>	<i>21:28 2MHz, Gain=3, LED=ON MAYBE 003 overwrote 001?</i>
<i>003:4</i>	<i>4</i>	<i>20</i>	<i>21:38 2MHz Gain=1, LED=ON</i>
<i>005</i>	<i>1</i>	<i>5</i>	<i>21:50 Gain=3 LED=OFF</i>
<i>006:09</i>	<i>1</i>	<i>6</i>	<i>21:51 G3</i>
<i>010:12</i>	<i>4</i>	<i>24</i>	<i>22:04 G1</i>
<i>013:18</i>	<i>1</i>	<i>6</i>	<i>22:20 G3 12 floats away from boat = 1 float closer than before</i>
<i>019</i>	<i>1</i>	<i>6</i>	<i>22:29 G3, LED=ON</i>
<i>020</i>	<i>4</i>	<i>24</i>	<i>22:31 G1, LED=ON</i>
			<i>32cm disc replaced with 50cm disc</i>
<i>021</i>	<i>1.2</i>	<i>7</i>	<i>23:11 G3 LED ON</i>
<i>022</i>			<i>23:12 G3 LED OFF</i>
<i>023</i>	<i>4.4</i>	<i>26</i>	<i>23:19 G1 LED OFF</i>
<i>24:28</i>	<i>1.2</i>	<i>7</i>	<i>23:25 G3</i>
<i>29:</i>	<i>4.4</i>	<i>26</i>	<i>34 G1</i>
<i>30</i>	<i>4.4</i>	<i>26</i>	<i>40 100kHz G1</i>
<i>31</i>	<i>1.2</i>	<i>7</i>	<i>49 100k G3</i>
<i>32</i>	<i>1.2</i>	<i>7</i>	<i>53 100K G3 LED ON</i>

Day #4... cont...

OCEANOGRAPHIC FIELD LOG				Intr #	S/N
MOSS LANDING MARINE LABORATORIES					
CRUISE <i>Oahu 13</i>		STATION No. <i>05</i>			
DATE <i>15 Sep 2012</i>		STATION NAME <i>Offshore Honolulu III</i>			
OBSERVERS <i>MF</i>		VESSEL <i>Hapa</i>			
TIME		LATITUDE		LONGITUDE	
zone					
WIND		WAVES		CLOUDS	
knots	deg	ft	% cover	type	

[illegible]

Oct 13, Day #5

Sun 16 Sep 2012, MF

Last night Steph made a plot showing a near UV signal decrease on T13

BCJ decided NOT to swap out FO

Mark brought out a fiber-coupled Thorlab CoolWhite LED
Mike wired a Panasonic AC adapter for 15V supply

Mark found a oil bubble / growth on T13 FO tip
that needed scraping to remove / clean

Set ctrl level of Thorlab CoolWhite LED
on least sensitive FO = T11, on scale @ Gain = 1
couple CoolWhite to end of long FOs via
Ocean Optic 50 μ m jumper FO # 727-733-2447
LED-Driver - LEDD1B # M00267607

Str 06, - $\frac{1}{2}$ Offshore Honolulu
21:16, 21° 15.759'N, 157° 56.847'W

22:00 Fork in H₂O, 50 cm disc on Trk #3

23:00 Fork in H₂O, 30 cm disc on Trk #3

Mike & Mike Diver photos of Fork & Boat & CTD & Hyper
& movies Probe

@ dock

Today: Capt = Robert
Mate = Kawika

CoolWhite LED @ dock

Day #5

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE <i>Oahu 13</i>		STATION No. <i>05</i>		<i>cameras on @ 18:06</i> <i>T13 nUV dropping</i> <i>not going to change FO without</i> <i>doing a OL455 cal</i> <i>Mark cleaned well the T13 FO</i> <i>some kind oil bubble needed</i> <i>scraped off</i>	
DATE <i>16 Sep 2012</i>		STATION NAME <i>Snug Dock / Underway</i>			
OBSERVERS <i>MF</i>		VESSEL <i>Hapa</i>			
TIME	LATITUDE	LONGITUDE			
zone					
WIND	WAVES	CLOUDS			
knots deg	ft	% cover	type		

Filename	BLUE int(s)	RED int(s)	Comments
<i>B 20120916-LEDtest_001</i>	<i>1</i>	<i>1</i>	<i>T14/LED & T13=LED Cool White MWHM1 M002661</i>
<i>004-006</i>	<i>1 sec</i>	<i>19:39</i>	<i>1 sec</i>
<i>007-009</i>	<i>1</i>	<i>49</i>	<i>4</i>
<i>010-012</i>	<i>1</i>	<i>55</i>	<i>4</i>
<i>013-015</i>	<i>1</i>	<i>20:03</i>	<i>4</i>
<i>OVERWRITE 016</i>	<i>017-018</i>	<i>1</i>	<i>20:08</i>
<i>019-021</i>	<i>2</i>	<i>20:13</i>	<i>4</i>
<i>B 20120916-darktest_001</i>	<i>10</i>	<i>20:39</i>	<i>10</i>
<i>002</i>	<i>60</i>	<i>20:44</i>	<i>60</i>
<i>003</i>	<i>120</i>	<i>47</i>	<i>120</i>
<i>R 004</i>	<i>NA</i>	<i>20:53</i>	<i>240</i>
<i>B 004</i>	<i>240</i>	<i>58</i>	<i>NA</i>
<i>B 005</i>	<i>600</i>	<i>03</i>	<i>NA</i>
<i>R 005</i>	<i>NA</i>	<i>21:16</i>	<i>600</i>

I re-closed a small gap on top of black box @ camera end, red com side

Day #5...cont...

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES		Intr #	S/N
CRUISE <i>Oahu 13</i>	STATION No. <i>06</i>	<i>Fork in H₂O ~ 22:00</i> <i>50cm disc on Trk #3</i> <i>bottom = 650 ft</i>	
DATE <i>16-Sep-2012</i>	STATION NAME <i>$\frac{1}{2}$ Offshore Honolulu I</i>		
OBSERVERS <i>MF</i>	VESSEL <i>Hapa</i>		
TIME <i>22:08</i>	LATITUDE <i>21° 16.181' N</i>	LONGITUDE <i>157° 57.476' W</i>	
WIND <i>5</i> knots	WAVES <i>2</i> ft	CLOUDS <i>0</i> % cover type <i>clear sky</i>	

Filename	BLUE int(s)	RED int(s)	Comments
<i>B</i> <i>20120916_001:003</i>	<i>1</i>	<i>8</i>	<i>22:08 LED/T14=ON Gain 3, 2MHz</i>
<i>R</i> <i>004:008</i>	<i>1</i>	<i>8</i>	<i>22:13 LED=OFF</i>
<i>009:010</i>	<i>4</i>	<i>36</i>	<i>22:26 LED=OFF, Gain=1</i>
<i>010:014</i>	<i>1</i>	<i>8</i>	<i>22:34 LED=OFF, Gain=3</i>
<i>015:017</i>	<i>1</i>	<i>8</i>	<i>22:44 LED=ON, Gain=3</i>
<i>018</i>	<i>1</i>	<i>8</i>	<i>22:51 " "</i>
<i>019</i>			<i>23:00 back in H₂O w/ 30cm disc on Trk #3</i>
<i>019:021</i>	<i>1</i>	<i>8</i>	<i>23:08 LED=ON, G3</i>
<i>022</i>	<i>4</i>	<i>36</i>	<i>23:15 LED=ON, G1</i>
<i>023:027</i>	<i>1</i>	<i>8</i>	<i>23:22 LED=OFF, G3</i>
<i>028</i>	<i>4</i>	<i>36</i>	<i>23:31 LED=OFF, G1</i>
<i>029:030</i>	<i>1</i>	<i>8</i>	<i>23:38 LED=OFF G3</i>
<i>031:033</i>	<i>1</i>	<i>8</i>	<i>23:42 LED=ON G3</i>
<i>034</i>	<i>4</i>	<i>36</i>	<i>23:4 LED=ON G1 Bottom Depth ~ 220 ft</i>
			<i>Fork dinner Photos, on deck @ 00:25</i>
<i>B</i> <i>(dark test 006</i>	<i>300</i>	<i>NA</i>	<i>00:39 1dk/1st, only ON = T 3,5,7,9,11,13 (Gain=3</i>
<i>R</i> <i>006</i>	<i>NA</i>	<i>300</i>	<i>00:50 " "</i>

Oahu 13, day #6

Mon 17 Sep 2012, MF

6

Stinky Tom cleaned out his fish guts stash from Ho'okele

18:14 Cameras on

Today Capt = Robert
Mate = Jackson

19:36, $21^{\circ} 15.874'N$, $157^{\circ} 54.604'W$

bottom ~ 1200 ft

Stn 07, 2.5 nmi Offshore Honolulu

Today Mike O moved Hyperprobe Es
From rail near generator = vibration?
to rail near Resonator Es
and

Mike F raised Res Es head in Gimbal
& adjusted tether which restricts excessive swing

Jim's email Fri 14 Sep 2012 recommends H₂O depth > 500m
...moving offshore

LAN @ 22:25

bot ~ 1600 ft, 1 nmi outside 1500 ft ledge

20:55, $21^{\circ} 14.690$, $157^{\circ} 55.667'W$

Stn 08, 4 nmi Offshore Honolulu

Hyper Pro, ASD

21:20, $21^{\circ} 14.605'N$, $157^{\circ} 55.164'W$

Stn 09, 4 nmi Offshore Honolulu

Fork w/ 32 & 50 cm disc @ Trk #3

deep core FO kissed boat 2x during 2nd deployment = Trk 7

Mark inspected FOs @ dock Trk 7 FO tip = OK, but
T7 & T13 had "rust" / plating / growth which was cleaned / removed

Cool White LED sensors @ dock

Day #6, Monday

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE	Oahu 13	STATION No.	09		
DATE	17 Sep 2012	STATION NAME	4 nm OFF Honolulu		
OBSERVERS	MF	VESSEL	Hapa		
TIME	21:23 GMT zone	LATITUDE	21° 14.625	LONGITUDE	157° 55.221' W
WIND	knots deg	WAVES	ft	CLOUDS	% cover type

cameras on @ 18:14
32cm disc on Trk #3
Swap in 50 cm disc
deep core FO kissed boat twice
during re-deployment

Filename	BLUE int(s)	RED int(s)	Comments
22020917001	1.5	21:35 12	Gain=3, LED=ON 8.2 m/s, 77°F
002	1.5	21:40 12	G=1
003	1.5	12	G=3
004	1	21:45 8	G=3 LED OFF clouds... 6.6 m/s, 81°F
005;007	1	22:17 8	in the hole, hydro profile 6.4/78
008;012	1	22:23 8	in cloud
			50cm disc on Trk #3 now
013;016	1	22:45 8	G=3, LED=OFF
017	1	22:53 8	G=1
018	4	22:55 32	G=1, LED=ON on edge of broken cumulus 5.6/69
019	1	23:01 8	G=3, LED=ON solidly in clouds 5.6/69
			on deck ~ 23:00

Day #6, Monday, ...cont..., Post-Stn 09

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OCEANOGRAPHIC FIELD LOG				Intr #	S/N
MOSS LANDING MARINE LABORATORIES					
CRUISE 02hu 13		STATION No. post-09			
DATE 18 Sep 2012		STATION NAME Snug Harbor dock			
OBSERVERS MF, MY		VESSEL Hapa			
TIME	LATITUDE	LONGITUDE			
zone					
WIND	WAVES	CLOUDS			
knots deg	ft	% cover	type		

CoolWhite LED #3 on @ 01:05

B Shtr Trk #7 does not close

T7 / deep bore FO kissed boat 2x during 2nd deployment today

Mark inspected T7 FO tip @ dock had no apparent damage, but T7 & T13 had "plating"/growth which were cleared/removed

[illegible]

Oahu 13, day #7

Tue 18 Sep 2012, MF

7

Rain @ dock early
18:14 cameras on

the deep base FO has 3 block tie wrap markers at
10, 20, 30 cm from FO tip

Stn 10, 4 nm off Honolulu
20:45, $21^{\circ} 14.564' N$, $157^{\circ} 53.280' W$

NOTE: May be VOG today

LEDs @ dock + FO tip inspection on GMT 19 Sep 2012

Day #7, Tuesday

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE <i>Oahu 13</i>		STATION No. <i>10</i>		Cameras on @ 18:14 50cm disc to start deep base FO tie wraps @ 10cm from tip	
DATE <i>18 Sep 2012</i>		STATION NAME <i>4</i>			
OBSERVERS <i>MF</i>		VESSEL <i>Hopa</i>			
TIME <i>21:20</i>	LATITUDE <i>21° 14.558' N</i>	LONGITUDE <i>157° 53.587' W</i>			
WIND <i>10</i> knots deg	WAVES <i>2</i> ft	CLOUDS <i>10</i> % cover	type <i>Cirrus</i>		

Filename	BLUE int(s)	RED int(s)	Comments
<i>B 20120918_001:003</i>	<i>1</i>	<i>21:31 8</i>	<i>Gain=3, LED=ON</i>
<i>BB 001:005</i>	<i>1</i>	<i>21:37 -</i>	<i>Blue cam only</i>
<i>B 004:006</i>	<i>1</i>	<i>21:40 8</i>	<i>LED=OFF</i>
<i>BB 006:008</i>	<i>1</i>	<i>-</i>	<i>4.6m/s 55°T</i>
<i>B 005</i>	<i>1</i>	<i>21:43 8</i>	
<i>BB 009:011</i>	<i>1</i>	<i>21:46 -</i>	
<i>B 006</i>	<i>1</i>	<i>21:47 8</i>	<i>really light cirrus all over the place</i>
<i>BB 012:014</i>	<i>1</i>	<i>-</i>	
<i>B 007</i>	<i>1</i>	<i>21:50 8</i>	
<i>BB 015:017</i>	<i>1</i>	<i>52 -</i>	
<i>B 008</i>	<i>1</i>	<i>53 8</i>	
<i>BB 018:020</i>	<i>1</i>	<i>55 -</i>	
<i>B 009</i>	<i>1</i>	<i>58 8</i>	
<i>BB 021:023</i>	<i>1</i>	<i>58 -</i>	
<i>B 010</i>	<i>1</i>	<i>59 8</i>	

Day #7... cont...

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE 02hm 13		STATION No. 10		re-deploy Fork w/ 32cm disc	
DATE 18 Sep 2012		STATION NAME 4nm offshore Hono			
OBSERVERS MF		VESSEL Hapa			
TIME	LATITUDE	LONGITUDE			
zone					
WIND	WAVES	CLOUDS			
knots deg	2' 5sec ft	% cover	type		

Filename	BLUE int(s)	RED int(s)	Comments
R20120918_011	1	22:15	8 32cm disc on Trk#3, LED=OFF
BB -024:026	1	17	- B cam only
R -012	1	18	8 B&R cams
BB -027:029	1	20	-
R -013	1	21	8
BB -030:032	1		-
R -014	1	25	8
BB -033:035	1	26	-
R -015	1	28	8 4.4 m/s, 62°T
BB -036:038	1	30	-
R -016	1		8
BB -039:041	1	33	-
R -017	1	34	8
BB -042:044	1	37	- Mike O'sais: VOG overhead
R -018	1	39	8 LED=ON
BB -045:047	1	41	-

Day #7, ... cont...

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OCEANOGRAPHIC FIELD LOG MOSS LANDING MARINE LABORATORIES				Intr #	S/N
CRUISE Oahu 13		STATION No. 10		Mark inspected FO tips @ end of day before LED scans: OK = T13, 11, 9, 5, 3 NOT: T7 = little bit of icky stuff	
DATE 18 Sep 2012		STATION NAME 4 nmi OFF Honolulu			
OBSERVERS MF		VESSEL Hapa			
TIME	LATITUDE	LONGITUDE			
zone					
WIND	WAVES	CLOUDS			
knots deg	ft	% cover	type		

Filename	BLUE int(s)	RED int(s)	Comments	MAX ADU
R 20120918_019	1	22 43	8 LED = OFF	
BB -048:050	1	45	-	
R -020	1	8		
BB -051:053	1	50	-	in clouds
GMT 19 Sep 2012 @ Smugg Harbor Dock				
R 20120919-LED-00113	4	01 08	8 T13, Gain = 1	42.2 / 30.3
4:6	1	01 18	4 T11	42.1 / 30.5
7:9	1	01 27	4 9	42.2 / 30.3
10:12	1	01 35	4 7 icky cleaned off before these scans	? DOWN vs yester 39.3 / 31.0
13:15	1	01 45	4 5	UP vs 34.5 / 31.8
16:18	2	01 52	4 3	DOWN 39.9 / 21.1
				35.6 / 33.3

50 50
.2 .1
10 5

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post- Oahm 13 LOCATION Hapa@ dock
 DATE 19 Sep 2012 OBSERVERS MF, BCJ, Mike Ondrusch
 INSTRUMENT 2x Resonon S/N CONFIG 02
 COLLECTOR bone FOS mux position fiber DISTANCE Jig@
 SOURCE 0L455 S/N CONFIG mm = 1 & 5
 PWR SUPPLY 0L450 S/N CONFIG
 MULTIMETER S/N SHUNT NA
 LAMP VOLTAGE CURRENT
 LAMP TIME ON WARMUP OFF TOTAL

SETUP SKETCH / REMARKS

Lamp time Amin
 ON 03:08
 OFF 05:01

Jig = 0L455-12N-7FP
 w/ 7 SMA conn
 & 8 taped empty holes
 11 o'clock SMA = empty
 & capped

B Trk 7 = always ON
 Shtr = RIP ?

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current	Lamp Voltage	Humidity	Temp.	Remarks
			mA	V	% R.H.	°C	
03:22	B20120919-0L455.001	10	10	LED=OFF	54	29.1	0L455 = shuttered / Ambient
03:28	002:004	0.2/0.1	7237	5µm @ 455			LED=ON, Gain=3
29	005:007	"	7242				LED=OFF
35	008:013	"	7241				only ON T3, 5, 7, 9, 11, 13
03:50	014	2/6	0114	1µm @ 455			SAME SETTING AS 2sec Blue → 9k ADU MAX ?
52	015	12/6	0114				Gain=3
55	016	12/6	0114				Gain=1
04:00	017	0.2/0.1	7241	5µm			Gain=3
401	018	.2/.1	7239				Gain=1
406	019	.8/.4	7249				Gain=1

MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post-02h 13 LOCATION MODY Tent,
 DATE 21 Sep 2012 OBSERVERS MF, DP Snug Harbor, HI
 INSTRUMENT 2x Resorion S/N CONFIG
 COLLECTOR Es mux position fiber DISTANCE 50cm
 SOURCE GS5000- S/N CONFIG F601(c2)
 PWR SUPPLY 6030A S/N CONFIG
 MULTIMETER >34970A S/N SHUNT GS125
 LAMP VOLTAGE CURRENT 8.2
 LAMP TIME ON WARMUP 20 OFF TOTAL

SETUP SKETCH / REMARKS

Lamp Time 4min
 ON 04:52
 OFF 06:32 100

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
01:46	PIXIS ON						
05:14	<Hyperpro Es via Darryl Peters>		8.1980	107.06	72	22.4	
527	20020921-F60L001-3	1/1	8.1979	107.05	72	22.2	only ON=T1, T14 / Gain=3
530	004-006	1/1					ON=T1
533	007	10/10	.1978	107.05			
537	008	20/20	1977	05			
543	009	20/20					Gain=1
558	<SLME x2>						
614	<MOBY251 EdBot>						

FEL
oc

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Thursday pg. 1 of 2

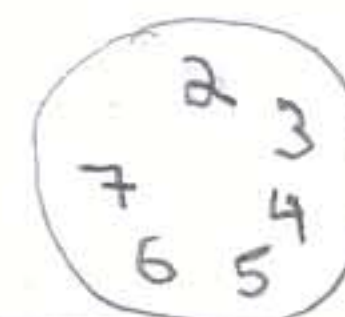
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MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post-Dahn 13 LOCATION Col Van, Snug
DATE 09 Nov 2012 OBSERVERS MF
INSTRUMENT 2x Resonon S/N CONFIG 02
COLLECTOR bare radiance FOS DISTANCE Jigged
SOURCE OL455 S/N CONFIG $\mu m = 1.85$
PWR SUPPLY OL450 S/N CONFIG
MULTIMETER NA S/N SHUNT NA
LAMP VOLTAGE NA CURRENT 5.5
LAMP TIME ON WARMUP 20 OFF TOTAL

SETUP SKETCH / REMARKS

Jigged some as 19 Sep 2012
Jig face to OL face = 0.35 inch
= closest possible w/ jig holder



Mark repaired B & R
Shutter controllers
on 03:07
on 29 Oct 2012
OFF 04:39 92 tested OK on 31 Oct

B chan #7 shtr always open & R #5!

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage FL	Humidity % R.H.	Temp. °C	Remarks
02:53	INIT 2 PIXIS 0.70°C			20K FL			
~04:00	Blue SHTR 24Vdc pwr sup	RIP					
02:16	INIT				55 mm LED GAIN	19.6 CHAN=ON	B/R max dr ADU 2x ADU
03:28	B 20121109-OL455-001	2/6	5.504	0114	1 ON 3	all	795/1017 47.1/51.2k
31	002	"		0114	1 OFF 3	all	850/1030 9.3/50.9
37	003	12/6		0114	1 " 3	all	863/1034 53.1/51.1
41	004	"	5.503	0114	1 " 3	3	944/1034 36.2/40.0
45	5	"		0114	1 " 3	5	955/1031 40.9/22.9
48	6	"		0114	1 " 3	7	950/1038 36.2/50.7
52	7	"	5.503	0114	1 " 3	9	944/1033 38.5/41.7
56	8	"		0114	1 " 3	11	960/1032 53.2/37.6
03:59	9	"	5.504	0114	1 " 3	13	959/1029 36.1/31.0
04:03	10	"		0113	1 OFF 3	all	882/1030 52.8/50.9
07	11	2/6		0114	1 ON 3	all	856/1032 47.5/50.9

(2) 05 MF)

Thursday, cont. pg.2 of 2

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MLML RADIOMETRIC CALIBRATION LOG				SETUP SKETCH / REMARKS	
EXPERIMENT	Post-Oahu 13		LOCATION	Coe Van, Smug	
DATE	09 Nov 2012		OBSERVERS	MF	
INSTRUMENT	2x Resonon S/N		CONFIG		
COLLECTOR	bone FO		DISTANCE	Jiggered	
SOURCE	0L455	S/N	CONFIG	$\mu m = 185$	
PWR SUPPLY	0L450	S/N	CONFIG		
MULTIMETER	NA	S/N	SHUNT	NA	
LAMP VOLTAGE		CURRENT	5.5		
LAMP TIME	ON	WARMUP	OFF	TOTAL	
WHERE NODE :: DEV : [DIR]				PROCESSED DATE: BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage 20k FL	Humidity % R.H.	Temp. °C	Remarks
					MM LED GAIN	CHAN ON	B/R MAX dk ADU
04:13	20121109-0L455_012	2/6	5.503	0114	1 ON	1 ALL	643/708 12.4/13.3
15		13 2/6			1 OFF	1 ALL	639/705 2.8/13.3
17		14 12/6		0114	1 OFF	1 ALL	658/702 13.8/13.3
27		15 0.2/0.1	5.503	7205	5 OFF	3 ALL	908/962 56.0/54.4
30		16 0.2/0.1		7204	5 ON	3 ALL	895/952 56.0/54.5
32		17 0.2/0.1		7205	5 ON	1 ALL	650/677 14.5/14.2
35		18 0.2/0.1	5.503	7206	5 OFF	1 ALL	647/677 14.6/14.2
37		19 0.8/0.4			5 OFF	1 ALL	649/683 39.8/34.7 Blue Bloom?
38		20 same		7212	5 OFF	1 ALL	645/683 Blue Bloom!

32
19
13

Tue pg 1 of 2

MLML RADIOMETRIC CALIBRATION LOG										SETUP SKETCH / REMARKS	
EXPERIMENT Post-0ahn13			LOCATION Cal Van, 5mug							Lamp time Amin ON 03:19 OFF 04:32 73	
DATE 14 Nov 2012		OBSERVERS MF									
INSTRUMENT FISH		S/N		CONFIG 02, 2x Resonator/							
COLLECTOR Lu/bare Fo		S/N		DISTANCE J16							
		mux position fiber		Pixis							
SOURCE NIST-OL455		S/N		CONFIG mm=1, 5							
PWR SUPPLY OL450		S/N		CONFIG							
MULTIMETER NOPE		S/N		SHUNT NO							
LAMP VOLTAGE		CURRENT 5.5									
LAMP TIME ON		WARMUP 20		OFF		TOTAL					
WHERE NODE :: DEV : [DIR]										PROCESSED DATE: BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage	Humidity % R.H.	Temp. °C	Remarks	%RH	°C
03:04	PWR ON			20K FL					
03:41	B20121114-OL455_001	2/6	5.503	0114 mm 1	LED Gain ON 3	Chan ON ALL	dk ADU 2t ADU 842/1030 47.5/50.9	47	20.0
44	2	2/6		0114 1	OFF 3	"	850/1034 9389/50.7		
46	3	12/6		0113 1	OFF 3	"	933/1033 53.1/51.0		
03:51	4	2/6		0114 1	ON 1	"	640/701 12.4/13.2		
53	5	8/24		0114 1	ON 1	"	702/706 36.3/34.6		
59	6	2/6		0113 1	OFF 1	"	641/704 2784/13.3		
401	7	12/6		0114 1	OFF 1	"	651/702 13.8/13.3		
05	8	48/24	5.503	0114 1	OFF 1	"	684/703 39.3/34.6	B 211 bloom!	
421	009	.2/.1	5.503	7209 5	ON 3	"	851/952 55.8/54.3	43	21.8
22	010	.2/.1		7207 5	OFF 3	"	832/945 " / "		
24	011	.2/.1		7204 5	ON 1	"	640/670 14.6/14.3		

Tue pg 2 of 2

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MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

EXPERIMENT *Post-013* LOCATION *Van*
 DATE *14 Nov 2012* OBSERVERS *MF*
 INSTRUMENT *FISH* S/N CONFIG
 COLLECTOR *Lu* mux position fiber DISTANCE *Jig*
 SOURCE *NIST-01455* S/N CONFIG
 PWR SUPPLY *04450* S/N CONFIG
 MULTIMETER *NOPE* S/N SHUNT *NO*
 LAMP VOLTAGE CURRENT
 LAMP TIME ON WARMUP OFF TOTAL

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage	Humidity	Temp.	Remarks
04:28	<i>20121114-01455-012</i>	<i>.8/.4</i>	<i>5.503</i>	<i>7203 5</i>	<i>20K FL</i>	<i>ON 1</i>	<i>633/679 39.8/34.7 B ±11 BLOOM!</i>
29	<i>13</i>	<i>.2/.1</i>		<i>7202 5</i>	<i>OFF 1</i>	<i>"</i>	<i>643/671 14.6/14.2</i>
31	<i>14</i>	<i>.8/.4</i>		<i>7202 5</i>	<i>OFF 1</i>	<i>"</i>	<i>642/682 39.9/34.8 B ±11 BLOOM!</i>

(21-Feb ^ MF)

Wed pg 1 of 2

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MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

look @ saturation / Blooming

long time Δ min

ON 420

OFF 616 116

all scan sets = 1dk / 2lt / 1dk

PROCESSED DATE:

BY:

EXPERIMENT Post-Oahu 13 LOCATION Van, Snug, HI
 DATE 15 Nov 2012 OBSERVERS MF
 INSTRUMENT FISH S/N CONFIG 02, 2x Res/PIXIS
 COLLECTOR Lu/hou FO DISTANCE JIG
 SOURCE NIST 02455 S/N CONFIG nm = 1 & 5
 PWR SUPPLY 02450 S/N CONFIG
 MULTIMETER NO S/N SHUNT NO
 LAMP VOLTAGE CURRENT yes
 LAMP TIME ON WARMUP 20 min OFF TOTAL

WHERE NODE :: DEV : [DIR]

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage FL ∇ nm	Humidity % RH	Temp. % °C	max ADU dk / 2t	Remarks
04:04	Coms ON							
04:40	B20121115-02455-001	2 sec	5.503	0114 1	ON 3	58 23.4	807/47.4	
44	002	2	5.503	0114 1	OFF 3	48 19.9	819/9.3	
46	03-08	.5, 1, 2, 4, 8, 12		0113 1	" 3		830/2.6 $\rightarrow$ 906/53.1	
53	09-11	13:1:15	5.503	0114 1	" 3	53 20.1	952/57.6-976/65535 (T11 max)	
58	12-16	16:1:20	5.503	0114 1	" 3	44 22.8	973/65535 $\rightarrow$ 982/	
05:06	17-21	22:2:30	5.503	0114 1	" 3	47 23.8	970 $\rightarrow$ 986	
17	22	30s	5.503	0113 1	" 2	52 24.7	706/65535	
20	23	30s	5.503	114 1	" 1	53 24.8	665/33.5	
28	24-34	.05: .05: .55	5.503	7205 5	" 1	57 22.8	650/4.2 $\rightarrow$ 646/36 = BLOOM #34	
34	35-43	.60: .05: 1.0	5.503	7210 5	" 1	51 19.5	650/37.3 $\rightarrow$ 649/40.9 = BLOOM ALL	
41	44-54	.05: .05: .55	5.503	7212 5	" 2	45 21.8	683/7.7 $\rightarrow$ 65k = BLOOM #54	
5:45	55-63	.60: .05: 1.0		7210 5	" 2			

(21-Feb 11 MF)

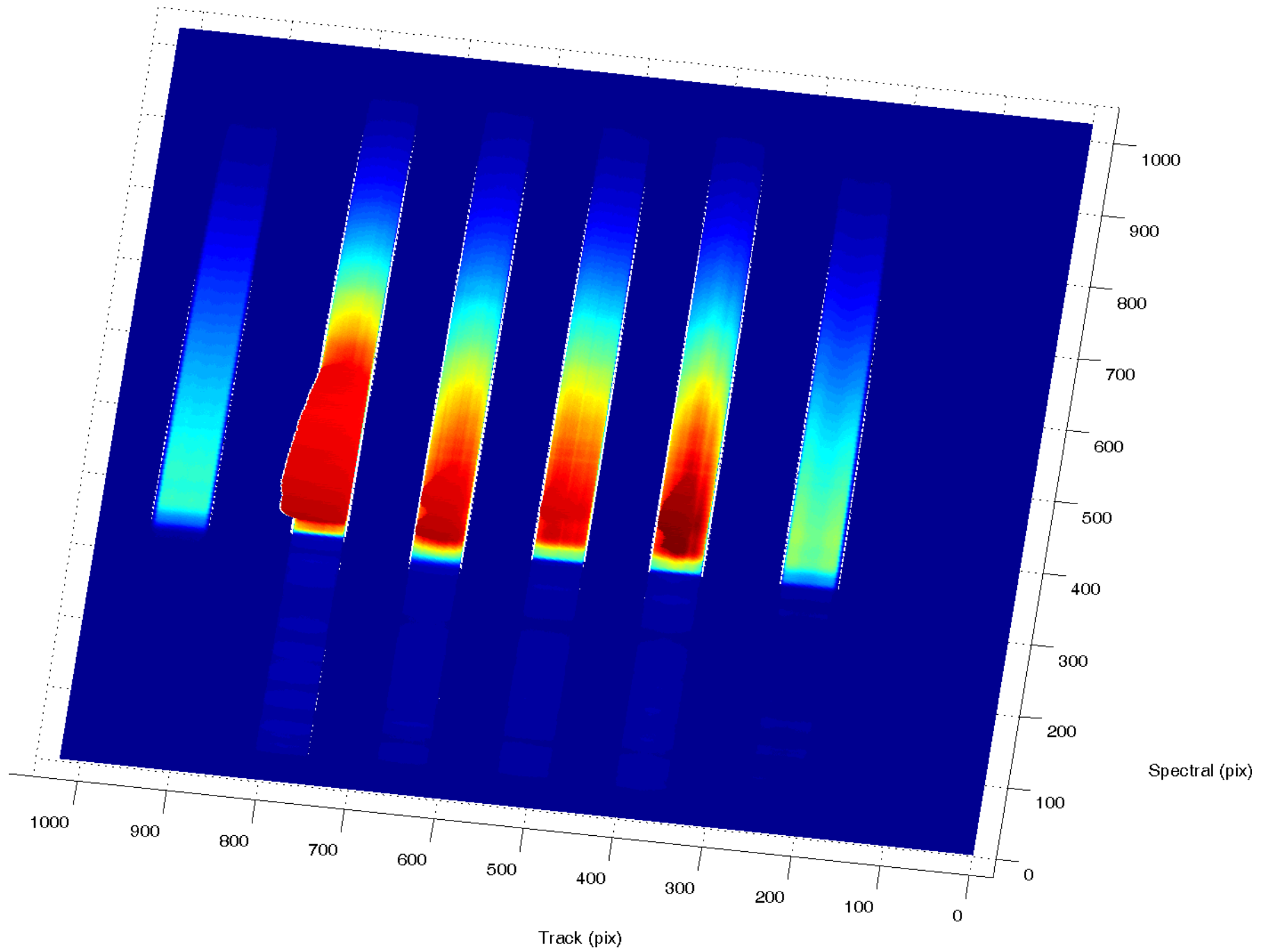
Wed pg. 2 of 2

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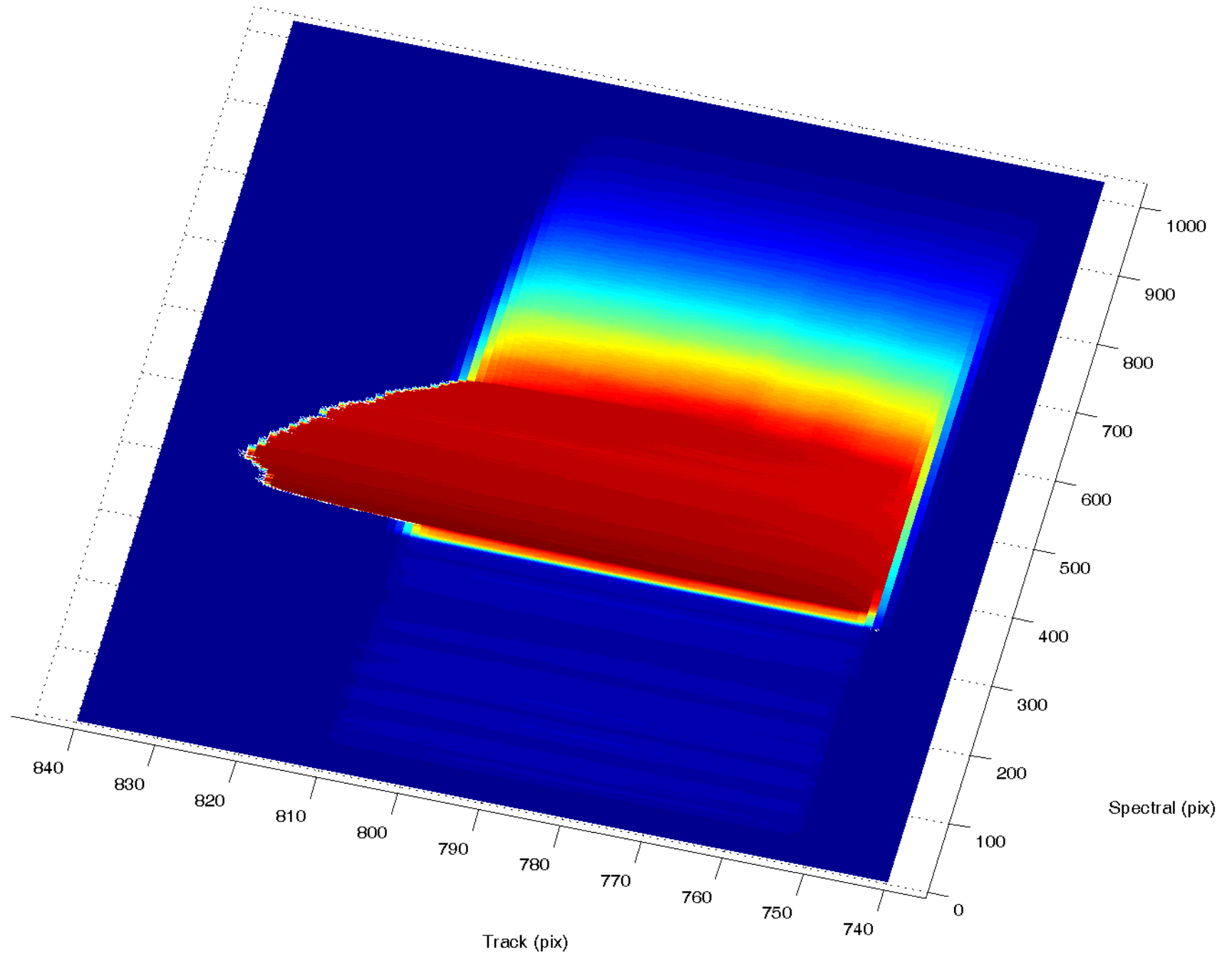
MLML RADIOMETRIC CALIBRATION LOG				SETUP SKETCH / REMARKS	
EXPERIMENT	Post -013		LOCATION	Van, HI	
DATE	15 Nov 2012		OBSERVERS	MF	
INSTRUMENT	FISH		S/N		
COLLECTOR	Ln		CONFIG		
	mux	position	fiber	DISTANCE	Jig
SOURCE	NIST 02455		S/N	CONFIG	mm 1 & 5
PWR SUPPLY	02450		S/N	CONFIG	
MULTIMETER	NOPE		S/N	SHUNT	NO
LAMP VOLTAGE			CURRENT	5.5	
LAMP TIME	ON	WARMUP	20	OFF	TOTAL
WHERE NODE :: DEV : [DIR]				PROCESSED DATE: BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage FL V mm	Humidity L% RH. G	Temp. °C	Remarks
05:53	R2021115-02455001	.05s	5.503	7204 5	OFF 1	48 23.8	De / et 673/7.7k
	002-010	.1:05:1.50		5	" 1		→ 36.2k
5:58	011-020	.55:05:1.0		7203 5	" 1	50 24.1	36.6 → 39.7
602	021:035	.05:05:0.75	5.503	7203 5	" 2		705/14.6 → 65k
08	036:044	.05:01:0.13		7201 5	3	52 24.6	957/28.5 → 65k
11	045:063	.14:01:0.30		7201 5	3	53 24.7	65k NO BLOOM ?

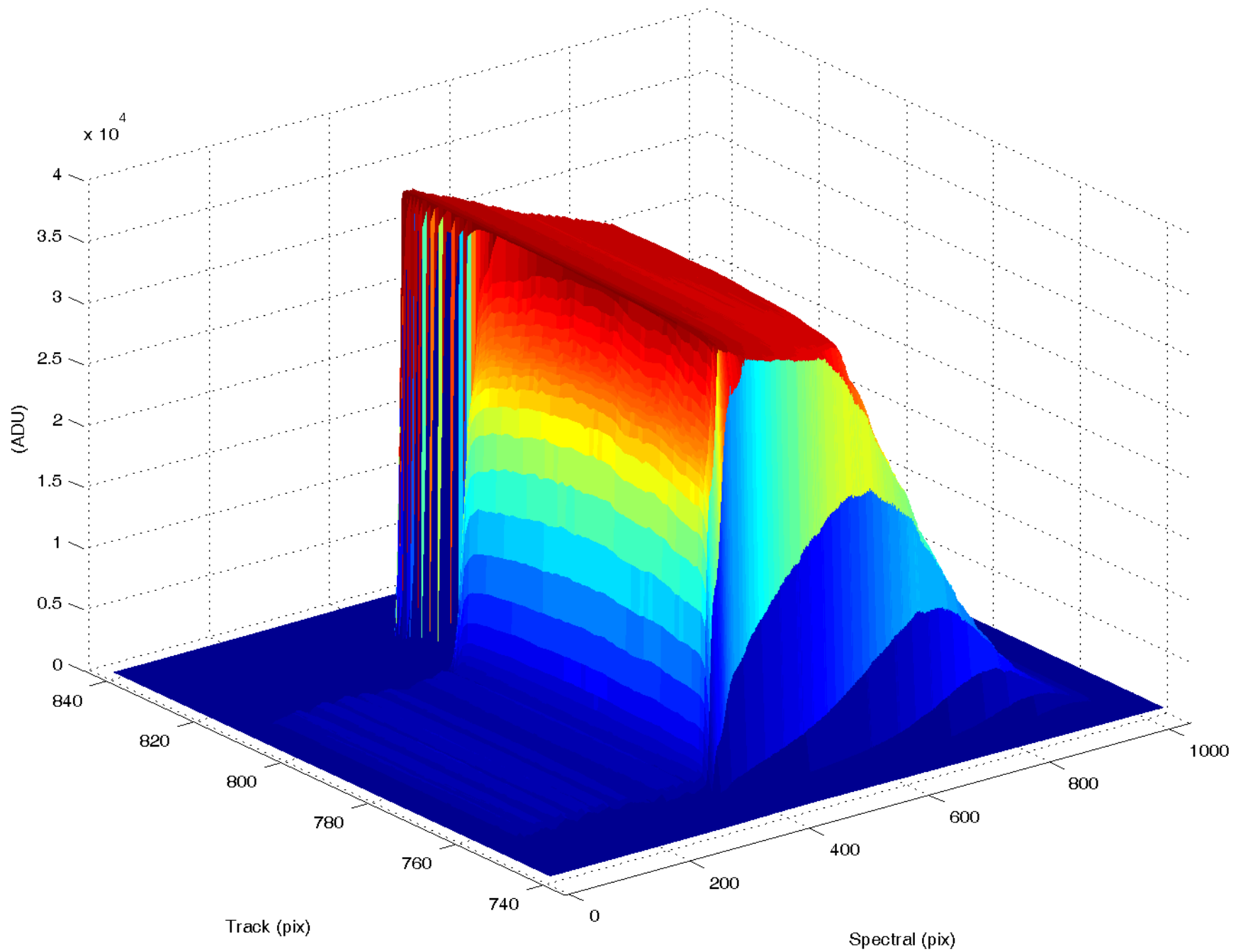
14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1



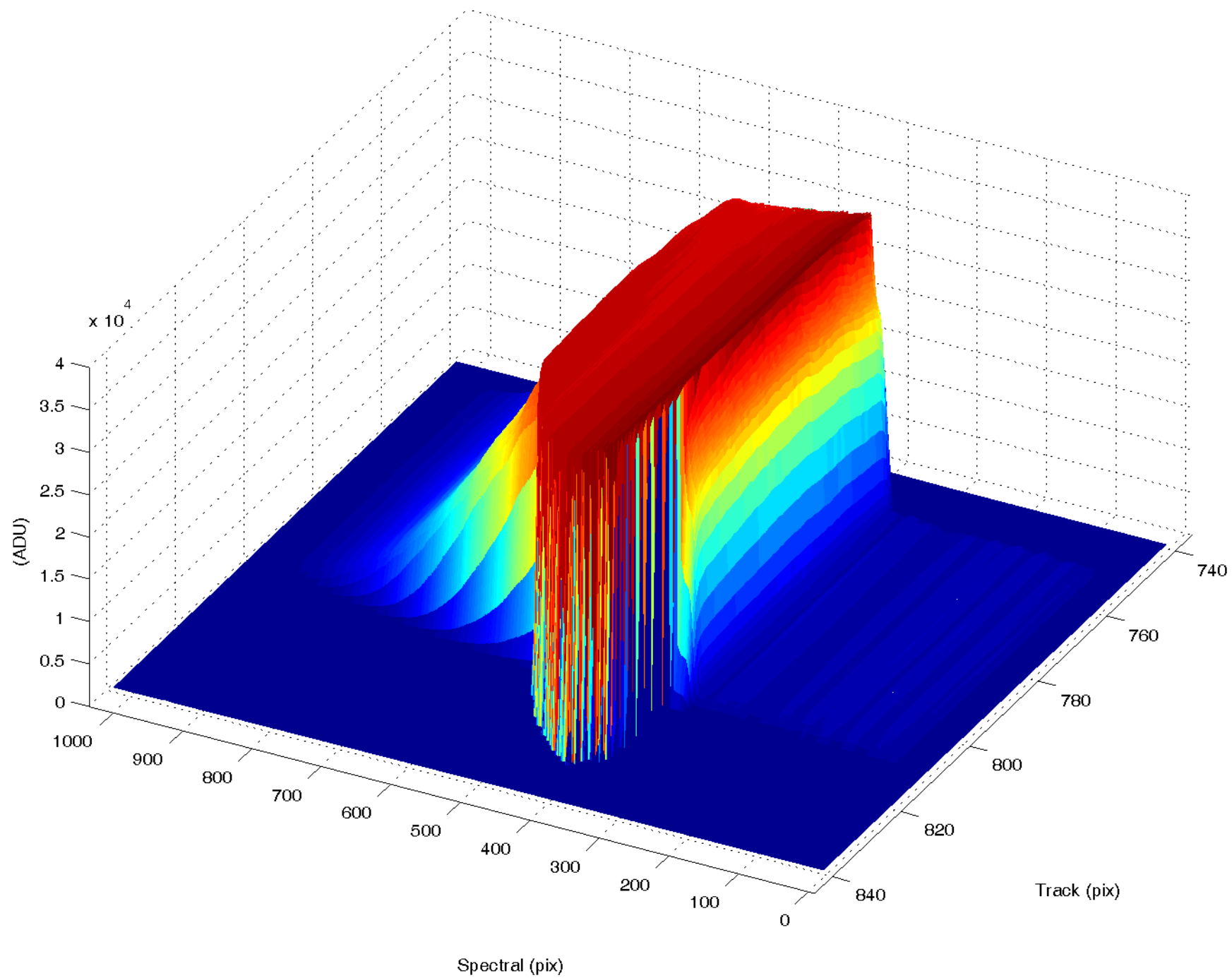
14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1, Track#11



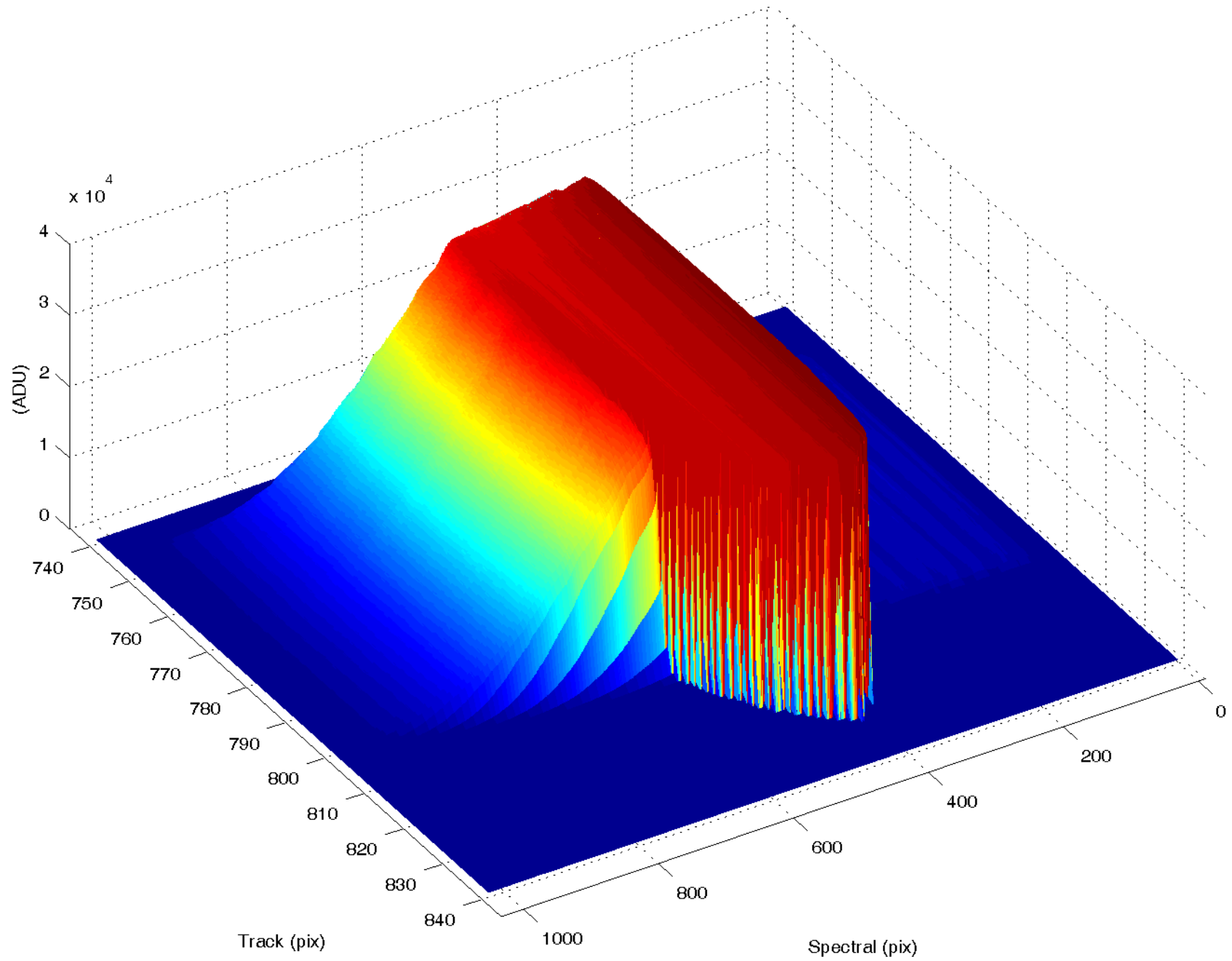
14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1, Track#11



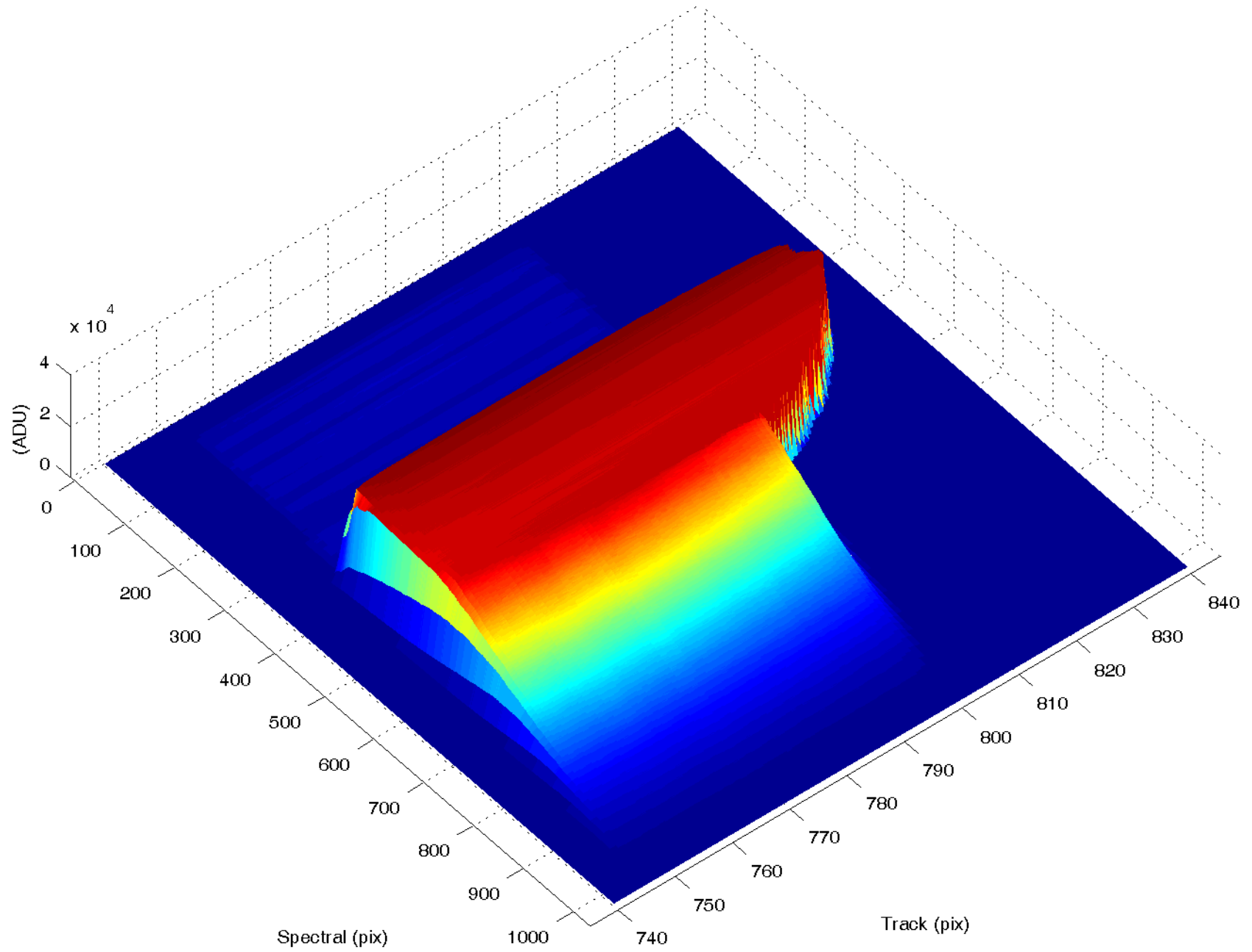
14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1, Track#11



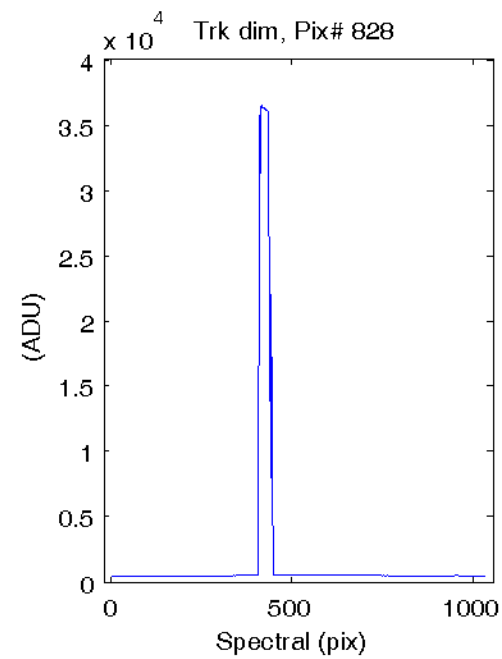
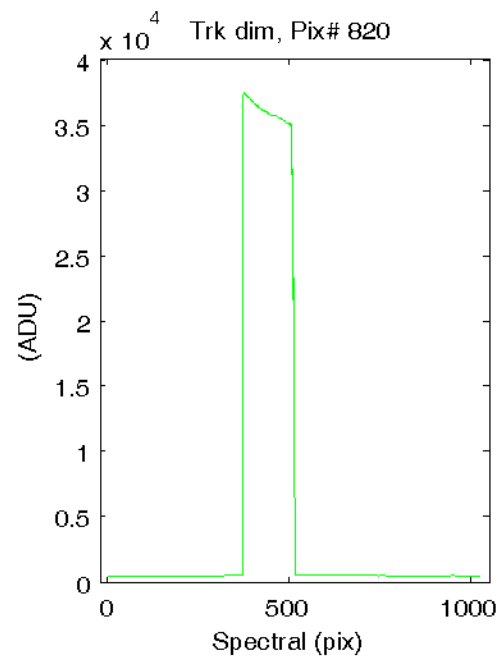
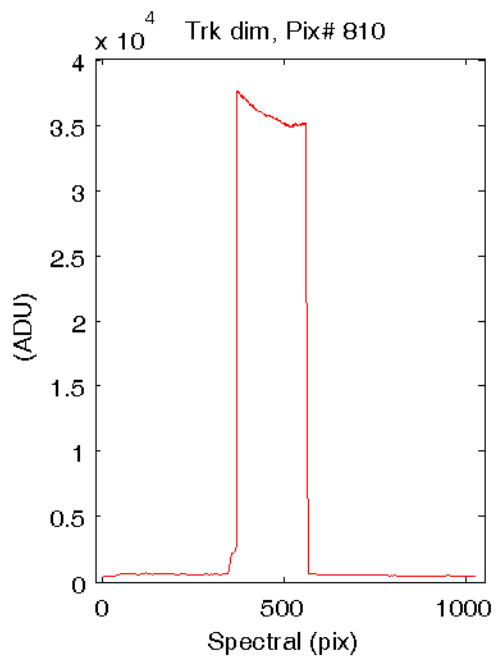
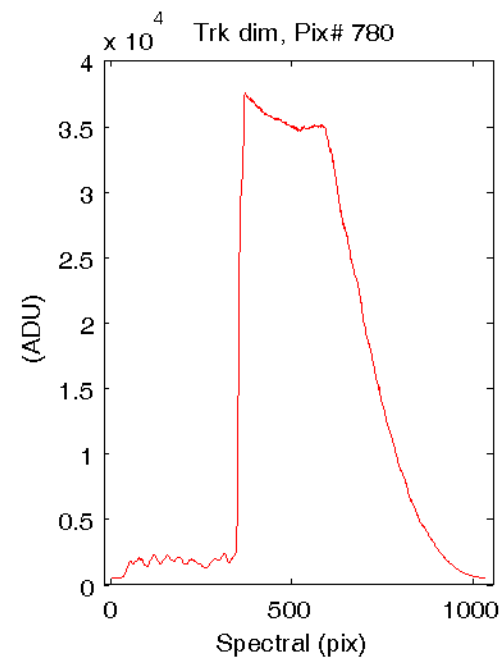
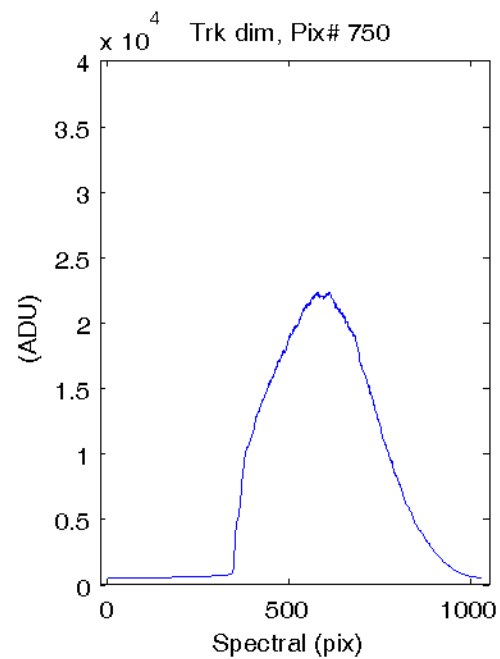
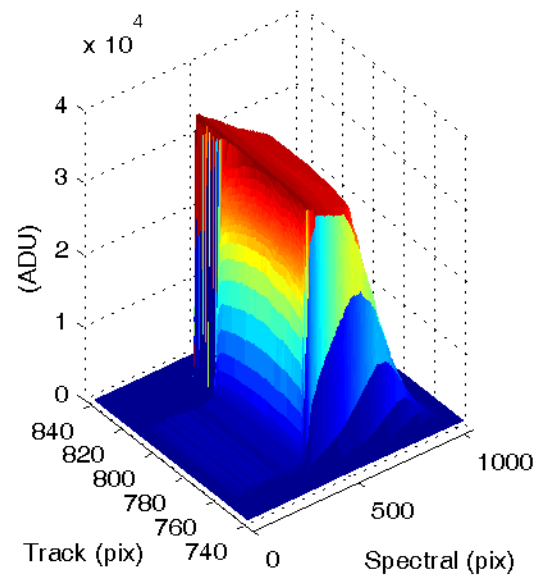
14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1, Track#11



14-Nov-2012, OL455 um=5, Blue gain=1, 0.8/0.4 sec, Lite#1, Track#11



14Nov2012, OL455 Blu Trk#11



MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

Damp time hrs

Jig = 8m 9FP
1 of 2ON 05:20 593.9
OFF 06:19 594.9w/ FO in SMA # 1, 2, 3, 4, 5, 6
FO # 1, 2, 3, 4, 5, 6Fri, 16 Nov HST: jig alignment bad -
was rotated slightly counterclockwise
maybe most affected = FO # 6 @ left edge?

PROCESSED DATE:

BY:

EXPERIMENT *Post-Oahu 13* LOCATION *Cal Van, Snug*
 DATE *16-Nov-2012* OBSERVERS *MF*
 INSTRUMENT *FISH* S/N CONFIG
 COLLECTOR *6x Lx/bare FO* DISTANCE *Jig @ 0.62m*
 SOURCE *MLML 02420* S/N CONFIG *(L10) S3W5D100*
 PWR SUPPLY *OL65DS* S/N CONFIG
 MULTIMETER *34970A* S/N SHUNT *GS125*
 LAMP VOLTAGE CURRENT *6.5*
 LAMP TIME ON WARMUP *20* OFF TOTAL

WHERE NODE :: DEV : [DIR]

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	L E D	G A I N	B/R dk ADU	Remarks max 2x ADU
01:24	ON									
05:43	R20121116-02420-001	2/6s	6.5067	7.4614	50	23.8	ON	3	860/1040	47.7/56.2
45	002	2/6	5068	4629			OFF	3		11.6/56.2
48	03-05	9/6	5068	4634	49	24.2	OFF	3	912/1044	50.2/56.4
56	06	9/6	5070	4651	50	24.7	OFF	1	660/703	13.1/14.7
59	07	18/12 (2x)	5071	4655			OFF	1	660/706	25.4/28.5
06:04	08	27/18 (4x)	5071	4659	52	25.0	OFF	1	662/703	36.4/32.8
13	09	6/18	5072	4667	54	25.3	ON	1	686/706	34.9/32.8

MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

repeat OL420, re-align jig,
include gain Mid(2)

Comp time hours
ON 03:17 59.49
OFF 04:25 59.60

PROCESSED DATE:

BY:

EXPERIMENT Post -02hm 13 LOCATION Col Van, HI
DATE 20 Nov 2012 OBSERVERS MF
INSTRUMENT FISH S/N CONFIG
COLLECTOR Lu / bare FOs mux position fiber DISTANCE Jig @ 0.62 in
SOURCE MLML OL420 S/N CONFIG (L10) WSD100
PWR SUPPLY OL6SDS S/N CONFIG
MULTIMETER 34970A S/N SHUNT GS125
LAMP VOLTAGE 34970A CURRENT 20
LAMP TIME ON WARMUP 6.5 OFF TOTAL

WHERE NODE :: DEV : [DIR]

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	LED	GAIN	Remarks
00:10	Pwr ON FIXIS								
03:39	B20121120-OL420_001	2/6	6.5064	7.4614	41	23.1	ON	3	831/1040 47.7/56.1
42		2	5066	4620			OFF	3	905/1054 11.7/55.9
44		3	5066	4625	45	24.3	F	3	933/1051 50.0/56.4
47		4	5066	4630			F	2	691/770 25.4/28.7
58		5	5068	4644	44	24.9	F	2	691/766 50.4/55.9
404		6	5085	4666	52	19.3	F	1	675/704 25.5/28.3
11		7	5077	4658	50	20.2	F	1	664/706 36.3/32.8
420		8	5068	4656	44	22.9	ON	1	645/704 34.9/32.8

still no wind today, some clouds @ horizon & forming to South
 a clear-ish sky after a week of SW wind / VOG & clouds & rain

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MLML RADIOMETRIC CALIBRATION LOG				SETUP SKETCH / REMARKS	
EXPERIMENT	Post-Oahu 13		LOCATION	MoBY tent @ Snug Harbour	
DATE	06 Dec 2012		OBSERVERS	MF	
INSTRUMENT	FISH		CONFIG	2X Resonon / PIXIS	
COLLECTOR	Es @ workbench behind tent		DISTANCE	∞	
SOURCE	Sun		CONFIG	Occulted & Not	
PWR SUPPLY			CONFIG		
MULTIMETER			SHUNT		
LAMP VOLTAGE					
LAMP TIME	ON	WARMUP	OFF	TOTAL	
WHERE NODE :: DEV : [DIR]				PROCESSED DATE: _____ BY: _____	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks
22:08	INIT						
22:35	B 20121206-occ01-001	2/9	Not - Occulted				gain 3, 2 MHz ~ 36k ADU max
38	002	"	Occulted		in tent		LED = off 9000 / 7700
41	003	"	Not		57	30.1	2dk / 50A / 2dk 35k
44	004	"	Occ				- took some photos here -
48	005	"	Not				36k
50	006	"	Occ				12 / 11k
							clouds on sun! see photo w/ hand over sun
23:00	007	2/15	LED scan				only took 14 = LED = on

shunt/lamp/therm log @ PC = SONY VAIO PCG-FX340
time = 3 min > FISH PC = MacBook Pro

Friday pg. 1 of 2

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MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post-Oahu13 LOCATION MOBY tent
DATE 08 Dec 2012 OBSERVERS MF Smug Harbour
INSTRUMENT FISH S/N CONFIG 2x Resonon/PIXIS
COLLECTOR Es/trk #1 mux position fiber DISTANCE Jigged
SOURCE GS5000-14 S/N CONFIG GS922
PWR SUPPLY 6030A S/N CONFIG
MULTIMETER 34970A S/N SHUNT GS125
LAMP VOLTAGE CURRENT 8.0
LAMP TIME ON WARMUP 20 min OFF TOTAL

SETUP SKETCH / REMARKS

Lamp time Amin

ON 04:33
OFF 07:57

I unplugged the
trk #14 LED because
Red shtr #14 won't close -
this R14 shtr intermittent

GS922 = retired FEL w/ side-tilted Filament

IA = A + I, IB = B + I, JB = B + J, etc...



Blu cam trk 1 has
much more smile
than Red trk 1?

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks	FEL °C	GS set
00:48	INIT								
05:06	20121208-GS5000-14	001 30/50	8.0097	103.08	66	25.3	gain 1, 2 MHz, 1dk/20t/1dk	93	A
5:12		002	96	08			Maybe A to "I" during lites?	94	IA
5:17		003	98	08	66	25.3		93	I
6:23		004	98	08				93	IB
5:28		005	98	08				93	B
6:34		006; 007	8.0098	103.09	67	25.1		94	JB, J
11:45		8, 9	98	08				93	JC, C
05:56		10, 11	8.0098	103.09	68	25.2		92	KC, K
12:08		12, 13	98	08				92	KD, D
12:20		14, 15	92	07			speed I to II	93	LD, L
11:31		16, 17	92	07	70	25.1	turned up side fans ...	90	LE, E

... cont ...

(21-Feb ~ MF)

Friday pg 2 of 2

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MLML RADIOMETRIC CALIBRATION LOG									
EXPERIMENT Post-013				LOCATION Tent					
DATE 08 Dec 2012		OBSERVERS MF							
INSTRUMENT FISH		S/N		CONFIG yes					
COLLECTOR Es				DISTANCE Jig @ black box					
SOURCE GS5000-14		mux position fiber		S/N		CONFIG GS922			
PWR SUPPLY 6030A				S/N		CONFIG			
MULTIMETER >34970A				S/N		SHUNT GS125			
LAMP VOLTAGE		CURRENT 8.0							
LAMP TIME ON		WARMUP 20		OFF		TOTAL			
WHERE NODE :: DEV : [DIR]									
SETUP SKETCH / REMARKS Note: I picked the wrong collector for this experiment - next time, add sphere to source & pick 1 Lu - it must be much faster exposure @ brightest "OH" setting for ~ 40 KADU and it would sure help to have cameras scanning in parallel...									
PROCESSED DATE:					BY:				

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	MAX KADU B/R	Remarks	FEL °C	GS-14 Set
06:43	B20121208-GS-14-018,19	30/50	8.0095	103.06	69	25.1	2.0, 1.3/1.5		87	ME, M
6:55		20,21	94	06			3.6/3.2, 2.7/2.5		88	MF, F
7:06		22,23	92	06	70	25.0	5.8/4.8, 3.5/3.1		86	NF, N
7:18		24,25	91	06			11.4/8.8, 8.3/6.6		86	NG, G
7:30		26,27	8.0095	103.07	71	24.8	20.5/15.5 12.4/9.7		86	OG, O
7:41		28,29	94	07	71	24.8	38.8/29.3 25.8/19.6		86	OH, H

MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

Lamp time Amin
ON 06:15
OFF 07:08 53

WinView/32
Version 2.5.25.2

Hardware Setup

Camera 1
Shtr: Custom, 8 msec
Clean: # = 1, #strip = 1024

Detector Temp: -70 °C

File Type: (*.spe)

Acquisition
Experiment Setup
ADC, Rate = 2 MHz
Gain = 1

Timing, Mode = Free Run

Main, #Images = 3, Use Full Chip, #accum = 1

PROCESSED DATE:

BY:

EXPERIMENT Post-Oahu13 LOCATION MOBY Tent, HI
DATE 11 Dec 2012 OBSERVERS MF
INSTRUMENT FISH S/N CONFIG
COLLECTOR FO #2 DISTANCE
SOURCE NIST 0L455 S/N CONFIG um ~ 5
PWR SUPPLY 0L450 S/N CONFIG
MULTIMETER NOPE S/N SHUNT NO
LAMP VOLTAGE CURRENT 5.5
LAMP TIME ON WARMUP OFF TOTAL

WHERE NODE :: DEV : [DIR]

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage	Humidity % R.H.	Temp. °C	Remarks
05:48	Blue Cam ON			20k VFL			
06:40	B20121211-WinView-dk001	1sec	5.5	8200	61	24.5	dark
42	-et001	1sec					lite, max ADU ~ 29k
44	-dk/et002	0.5s		8212			14k
46	003	0.25s		8216			7.5
48	004	1.00		8213			28
50	005	1.25		8210			36
52	006	1.50		8218			43
53	007	1.75		8210			47
55	008	2.00		8216			48
56	009	2.25		8207			48
58	010	2.50		8206			48
07:00	011	2.75		8212			48
02	012	1.00		8218			29k
04	013	0.50		8205			15k

Tue pg. 1 of 4

distance FO tip to Iris blade
 $1.01 + 0.02 + 0.335 = 1.365 \text{ in}$

Gain = 1, 2 MHz, 1dk/30t/1dk

1.01 in

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MLML RADIOMETRIC CALIBRATION LOG

SETUP SKETCH / REMARKS

Lamp Time Amin
 ON 04:24
 OFF 07:00

Iris open = 2.75"
 "closed" = 0.18"

cross section Iris
 0.275" 0.06" 0.335 in
 < edge toward Jig
 < blades

FO #2
 FO tip to Jig Face ~ 0.02 in

IRIS SMA JIG

EXPERIMENT Post-Oahu 13 LOCATION MOBY tent
 DATE 12 Dec 2012 OBSERVERS MF
 INSTRUMENT FISH S/N CONFIG
 COLLECTOR Lu / FO #2 mux position fiber DISTANCE Δ
 SOURCE NIST 0L455 S/N CONFIG um 2 4
 PWR SUPPLY 0L455 S/N CONFIG
 MULTIMETER NOPE S/N SHUNT NOPE
 LAMP VOLTAGE CURRENT 5.5
 LAMP TIME ON WARMUP YES OFF TOTAL

WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage	Humidity % R.H.	Temp. °C	dia (in) Iris	Remarks
02:55	Camera ON			20k FL				
05:22	20121212-FOV01-001	0.8/0.25	5.503	3920	62	25.0	2.75 = open	
24	002			38			1.00	45k
26	003			43			0.50	35/41
28	4			41			0.60	42/44
30	5			41			0.70	45/46
31	6			39			0.80	45/46
33	7			38			0.90	45/46
34	8			39			1.00	"
36	9			31			1.50	"
37	10			20			2.75	45/45
38	11						1.00	45/46

Tue pg 2 of 4

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MLML RADIOMETRIC CALIBRATION LOG					SETUP SKETCH / REMARKS	
EXPERIMENT	Post-Oahu 13		LOCATION		Tent	
DATE	12 Dec 2012		OBSERVERS		MF	
INSTRUMENT	FISH		S/N	CONFIG		
COLLECTOR	FO#2		DISTANCE			
	mux	position	fiber			
SOURCE	0L455		S/N	CONFIG		
PWR SUPPLY			S/N	CONFIG		
MULTIMETER			S/N	SHUNT		
LAMP VOLTAGE			CURRENT			
LAMP TIME	ON		WARMUP	OFF	TOTAL	
WHERE NODE :: DEV : [DIR]					PROCESSED DATE: BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage	Humidity % R.H.	Temp. °C	IRIS dia(in)	Remarks
05:41	B20121212-FOV01_012	0.8/0.2	5.503	3939	62	24.8	0.80	ADU MAX 45/46 k
43	13			40			.75	"
44	14			40			.65	43/46
46	15			43			.60	41/45
48	16			41			.62	43/45
50	17			40			.64	43/45
52	18			41			.66	44/45
53	19			39			.68	44/45
55	20			41			.70	
56	21			39			.72	44/46
58	22			41			.74	45/46

06:50
02
0323
24
25

5.503

40
40
3940

64 24.6

.76
.78
.8045/46
"
"

(21-Feb 00 MF)

Tue pg 3 of 4

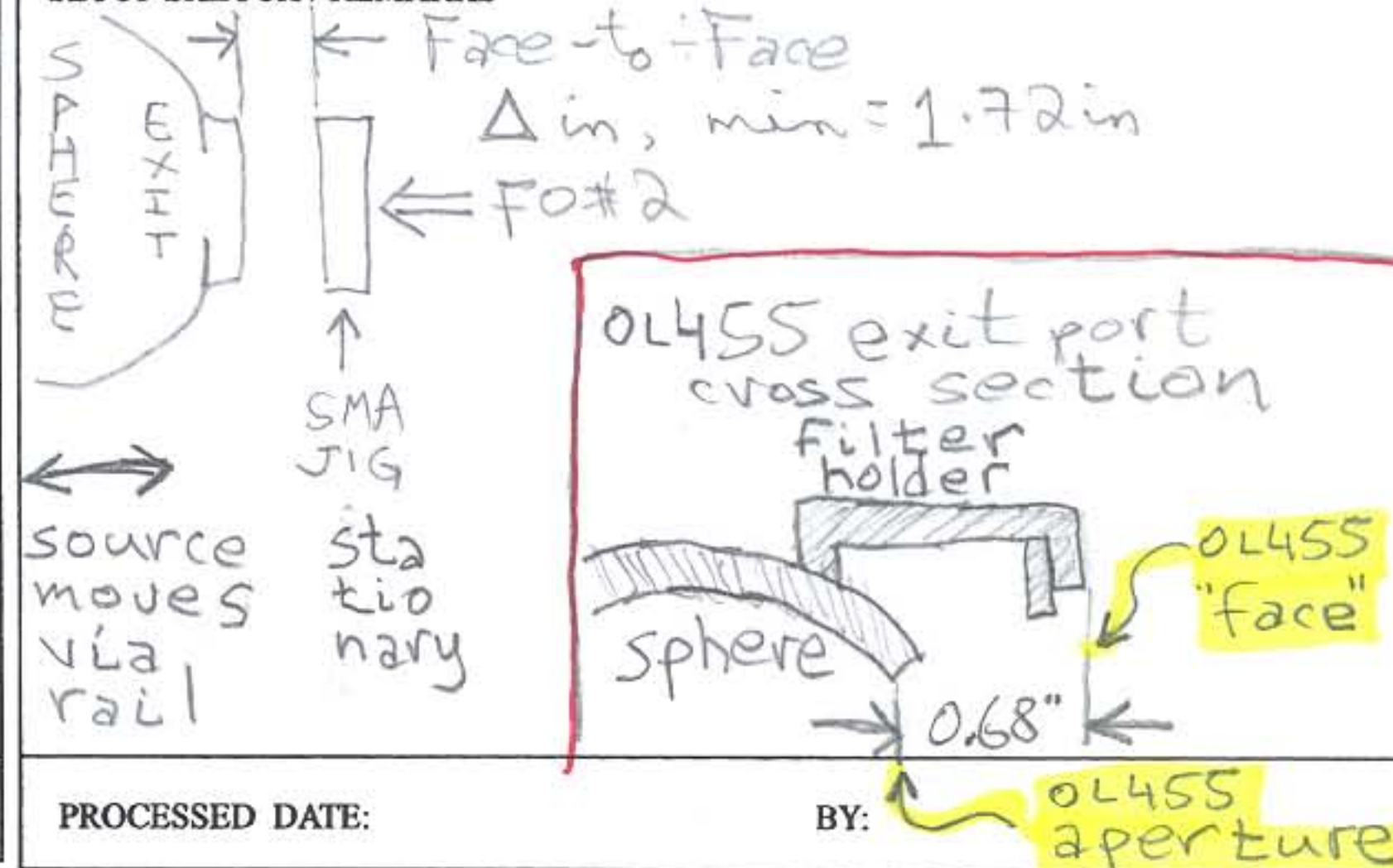
Note: total distance FO tip to source aperture
= Face-to-Face "dist (in)" below + 0.68 + 0.02
+ 0.70 in

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MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post-Oahu 13 LOCATION Tent
DATE 12 Dec 2012 OBSERVERS MF
INSTRUMENT FISH S/N CONFIG
COLLECTOR Ln/FO#2 mux position fiber DISTANCE
SOURCE 0L455 S/N CONFIG
PWR SUPPLY S/N CONFIG
MULTIMETER S/N SHUNT
LAMP VOLTAGE CURRENT
LAMP TIME ON WARMUP OFF TOTAL

SETUP SKETCH / REMARKS



PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage 20k ∇ FL	Humidity % R.H.	Temp. °C	dist (in)	Remarks Max k ADU
06:14	R291212-FOV02-001	0.8/0.2	5.503	3912	65	24.7	1.72	45/46
17	002			3897			12	20/28
18	003			3899			5.0	45/45
20	4			3902			4.0	45/45
21	5			3902			3.0	"
22	6			3907			2.0	"
24	7			3912			1.75	" = Minimum
26	8						5.0	"
27	9			3899			6.0	43/45
28	10			3899			7.0	39/43
29	11			3898			6.5	42/44

31
32
34

12
13
14

38 99
38 98
39 00

6.0 43/45
5.5 44/45
5.0 "

(21-Feb MF)

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MLML RADIOMETRIC CALIBRATION LOG					SETUP SKETCH / REMARKS	
EXPERIMENT	Post-Oahu 13		LOCATION		Tent	
DATE	12 Dec 2012		OBSERVERS		MF	
INSTRUMENT	FISH		S/N	CONFIG		
COLLECTOR	FO#2		DISTANCE			
	mux	position	fiber			
SOURCE	0L455		S/N	CONFIG		
PWR SUPPLY			S/N	CONFIG		
MULTIMETER			S/N	SHUNT		
LAMP VOLTAGE			CURRENT			
LAMP TIME	ON	WARMUP	OFF	TOTAL		
WHERE NODE :: DEV : [DIR]					PROCESSED DATE: _____ BY: _____	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage 20k FL	Humidity % R.H.	Temp. °C	dist (in)	max KADU	Remarks
06:36	B2021212-FOV02.015	0.8/0.2	5.503	3900	65	24.5	5.25	44/45	
39		16		3898			5.50	"	
40		17		3900			5.75	"	
41		18		3898			6.00	43/45	
42		19		3901			6.25	42/44	8/32
43		20		3900			6.125	43/44	4/
46		21					6.0625	"	2/
47		22		3901			6.0	43/45	
49		23		3899			5.875	"	28/32
52		24		3900			5.75	44/45	24
53		25		3900			5.625	44/45	20
57		26		3898			6.125	43/44	4 (21-Feb ^ MF)
58		27		3900			6.1875	"	6
59		28		3901			6.25	42/44	8

Thurs pg 1 of 3

Gain = 1, 2 MHz, 1 dB/3 sct / 1 dB

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MLML RADIOMETRIC CALIBRATION LOG

EXPERIMENT Post-Oahu 13 LOCATION Tent
DATE Dec 2012 OBSERVERS MF
INSTRUMENT FISH S/N CONFIG
COLLECTOR Lu/FO#7 mux position fiber DISTANCE JIG
SOURCE NIST OL455 S/N CONFIG mm = 4
PWR SUPPLY OL450 S/N CONFIG
MULTIMETER NO S/N SHUNT NO
LAMP VOLTAGE CURRENT 5.5
LAMP TIME ON WARMUP OFF TOTAL

SETUP SKETCH / REMARKS min Face-to-Face = 1.74 in

Lamp Time Ann
ON 04:04
OFF 5:26
move OL sphere relative to FO



WHERE NODE :: DEV : [DIR]

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage 20k FL	Humidity % R.H.	Temp. °C	dist + min	Red max ADC row 932	Remarks
04:27	B20121214-FOV03-001	0.9/0.25	5.503	3916	67	24.2	0.00	42.3	
28	2			09			1.0	42.7	
29	3			06			2.0	"	
30	4			02			3.0	42.6	
32	5			03			4.0	42.4	
33	6			03			5.0	41.1	
34	7			02			6.0	38.8	
36	8			02			7.0	36.2	
37	9			02			6.5	37.7	
38	10			03			5.5	40.2	
44	11			3902			4.5	42.0	

46

12

03

3.5

42.5

(21-Feb MF)

47

13

05

2.5

42.7

Thur pg 2 of 3

MLML RADIOMETRIC CALIBRATION LOG					SETUP SKETCH / REMARKS	
EXPERIMENT <u>Post-Oahn 13</u>		LOCATION <u>MOBY tent</u>				
DATE <u>14 Dec 2012</u>		OBSERVERS <u>MF</u>				
INSTRUMENT		S/N				
COLLECTOR <u>Lu/FO#7/tk#13</u>		CONFIG				
		DISTANCE				
SOURCE <u>OL455</u>		S/N			CONFIG <u>mm = 4</u>	
PWR SUPPLY <u>OL450</u>		S/N			CONFIG	
MULTIMETER		S/N			SHUNT	
LAMP VOLTAGE		CURRENT				
LAMP TIME <u>ON</u>		WARMUP			OFF TOTAL	
WHERE NODE :: DEV : [DIR]					PROCESSED DATE: BY:	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage 20k FL	Humidity % R.H.	Temp. °C	dist + min	Remarks
04:49	20121214-FOV03-014	0.9/0.25	5.503	3907	69	24.1	1.5 42.7	
51		15		12			0.5 "	
52		16		16			0.0 42.6	
53		17		02			3.25 42.7	8/32
55		18					3.375 42.4	12
57		19		04			3.50 42.4	16
58		20		05			3.625 42.5	20
04:59		21		04			3.75 42.4	24
501		22		02			3.875 42.5	28
02		23		05			4.00 42.2	
03		24		05			4.125 42.0	4/32
05		25					4.25 42.2	8
06		26					4.375 42.0	12

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MLML RADIOMETRIC CALIBRATION LOG				SETUP SKETCH / REMARKS	
EXPERIMENT	Post-Ozhu 13		LOCATION	Tent	
DATE	14 Dec 2012		OBSERVERS	MF	
INSTRUMENT	FISH		S/N	CONFIG	
COLLECTOR	Ln, FO #7, trk #13		DISTANCE		
	mux	position	fiber		
SOURCE	0L455		S/N	CONFIG mm = 4	
PWR SUPPLY	0L450		S/N	CONFIG	
MULTIMETER			S/N	SHUNT	
LAMP VOLTAGE			CURRENT		
LAMP TIME	ON	WARMUP	OFF	TOTAL	
WHERE NODE :: DEV : [DIR]				PROCESSED DATE: _____ BY: _____	

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V FL	Humidity % R.H.	Temp. °C	kADU Remarks
05:07		27 0.9/0.25		3903			4.50 41.9 16/32
08		28		03			4.625 41.7 20
11		29		03			3.125 42.7 4
13		30		03			3.1875 42.7 6
14		31					3.25 42.6 8
15		32		02			3.3125 42.7 10
16		33		03			3.375 42.5 12
18		34		02			3.4375 42.6 14
19		35		3900			3.50 42.5 16
20		36		00			3.5625 42.7 18
21		37		02			3.625 42.6 20

22	38	3903	3.6875 42.7 22
23	39	03	3.75 42.5 24
25	40	03	3.8125 42.6 26/32

(21-Feb-05 MF)

Post-Oahn 13, FISH, Lu linearity

Thur 24 Jan 2013, MF

@ pwr on today

I switched on pwr strip inside black box
which only had 3 x pwr cords plugged in

1 = Blue PIXIS pwr sup = switched off @ converter

2 = Red " " " " " "

3 = 2 x 15Vdc pwr sup to B & R shutter controllers

★ Blue shtr ctrl box "popped", sparked & smoked
from end wired to shtrs

black box pwr strip plugged into APC UPS, pwr'd via extension
cord

Today I cleaned both entrance & exit lens
on the GS5000-14 linearity ass.

before FISH-Lu linearity check

thun pg. 1 of 2

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MLML RADIOMETRIC CALIBRATION LOG				
EXPERIMENT	Post-Oahu 13		LOCATION	MOBY Tent
DATE	25 Jan 2013		OBSERVERS	MF
INSTRUMENT	FISH	S/N	CONFIG	
COLLECTOR	Lu FO#6, trk#11	position	DISTANCE	flush w/ sphere face
SOURCE	G\$5000-14	S/N	CONFIG	G\$922 = FEL
PWR SUPPLY	6030A	S/N	CONFIG	G\$5000-11B = sphere
MULTIMETER	34970A	S/N	SHUNT	G\$125
LAMP VOLTAGE		CURRENT	8.0 A dc	
LAMP TIME	ON	WARMUP	20 min OFF	
TOTAL				
WHERE NODE :: DEV : [DIR]				

SETUP SKETCH / REMARKS

Gain = 3 (high)
 Speed = 2 MHz (high)
 trk #14 LED = OFF
 2 dk / 5 lt / 2 dk

Comp time Δ min
 ON 05:07
 OFF 6:22 75

WARM-001 = OH aperture
 002:4 = Ambient / dark before A
 005:10 = A#1 E letter black @ side of dial
 A#2 = letter back-lit

PROCESSED DATE:

BY:

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks	FEL °C	G\$ set
05:17	B 20130125_WARM-001	1.1 / 0.9 s	8.0070	103.03	88	22.9	Damp / FISH warmup	70	OH, X, A
5:32	_LIND2-001	31.1 / 0.9	8.0073	103.04	90	22.7		75.5	A #1
35		4:6	73	04				76	A #2
38		7:9	73	04				76	IA
40		10:12	72	04				76	I
43		13:15	72	03				76	IB
46		16:18	73	03				76	B
48		19:20	73	03				76.5	JB, J
51		21:22	72	03					JC, C
53		23:24	73	03				76.5	KC, K
55		25:26	72	03	90	22.3		77	KD, D
58		27:28	72	03					LD, L

Thurs pg. 2 of 2

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MLML RADIOMETRIC CALIBRATION LOG					SETUP SKETCH / REMARKS	
EXPERIMENT <u>Past-Cahn 13</u>		LOCATION <u>MOBY Tent</u>				
DATE <u>25 Jan 2013</u>		OBSERVERS <u>MF</u>				
INSTRUMENT <u>FISH</u>		S/N				
COLLECTOR <u>Lu</u>		CONFIG				
		DISTANCE				
SOURCE <u>G55000</u>		mux		position	fiber	
PWR SUPPLY <u>6030A</u>		S/N		CONFIG <u>G55000-14 Linearity</u>		
MULTIMETER <u>34970A</u>		S/N		CONFIG <u>G55000-11B sphere</u>		
LAMP VOLTAGE		CURRENT		SHUNT <u>G5922 FEL</u>		
LAMP TIME <u>ON</u>		WARMUP		OFF	TOTAL	
WHERE NODE :: DEV : [DIR]						PROCESSED DATE: _____ BY: _____

Time	Filename	Int Time/Bin Fact or Gain	Shunt Current mA	Lamp Voltage V	Humidity % R.H.	Temp. °C	Remarks	FEL °C	GS Set
06:00	B20130125-LIN02-029	1.01/0.9					Repeat! MAYBE PREVIOUS L		L
02		30,31	8.0072	103.03				76.5	LE, E
04		32,33	71	03	91	22.2		76	ME, M
07		34,35	71	03				76	MF, F
09		36,37						76	NF, N
11		38,39	70	03				76.5	NG, G
13		40,41	70	03				76	OG, O
15		42,43	70	03				76.5	OH, H
17		44					black letter H @ window		H #2
18		45	8.0070	103.03			Dark / Ambient	76.5	-NA-