3/7 14:00 : LGSW pushed forward to ~~the~~ LUCI 2 by ~1cm

15:25 : CAL UNIT deployed we check the # foci between LGSW and LUCI U30 (56.5mm)

PCT : 20150703_222809
_222926

New z stage focus for sensor = 48.1

~~new~~ new pupil positions : ~~602~~; 504
491; 713
286; 662

new pupil tag : 20150703_230100

COMBINED REC	TAG
20150703_231300	TCOG48 YELLOW ONLY
_231700	TCOG48 BLUE ONLY
_234700	TCOG48 RED only

Yellow REC seems bad, we try blue. This one can keep closed loop modes

TN	NOTES	
20150703_232010	blue only, loop modes, no TS	
_232118		
_232238		
_233544		
_233906	TS ~~de~~ activated focus @ 48	
_234859	RED REC, no TS	G = 0.4; 0.3; 0.2
_234934		0.4, 0.3, 0.3
_235118		0.4, 0.2, 0.1
_235507	TS activated	LUCI 20150709. 0017
_235543		0018

18:00 : sensor was misplaced, was not pulled against pins so we had a tilt of ~ 1°. Fixed we retry

PUP	PI
704; 504	-1.50; 0.85
330; 723	1.80; 0.15
400; 657	2.15; -1.30

NEW PUPIL TARGET : 20150704 - 010859

TN	NOTES	LUCI
50704_010132	YELLOW G=0.3; 0.4; 0.3	
_010232	TS OFF	
_010729	TS ON ~~XXXXX~~ : 20150704.	0021 ÷ 0026
_010756		
_011613	BLUE : 0.3; 0.4; 0.3	0027 ÷ 0031
_011703	(TS converged)	
_011751		
_012121	RED : 0.3; 0.4; 0.3	0032 ÷ 0036
_012254	TS ON	
_012332		
_012831	GLAO : 0.4; 0.45; 0.4	0037 ÷ 0041
_012905	only	
_013343	GLAO	0042 ÷ 0046
_013408	BIN4 0.4; 0.1, 0.0	
_013436	jitter closed	
_013640	G=2.0, 0.5; 0.3	0047 ÷ 0051
_019730	GLAO + QC	0062 ÷ 0066
_014755	G= 0.2; 0.4; 0.3	
_014824		

record a new IM ~~that~~ because we have a new pupil
ition :

BAPS	IM	LGSW REC
41126_212700	20150704_020107	bad IM
	20150704_020321	20150704_02M00

GSW REC	COMBO REC	TAG
50704_02M00	20150704_021200	TC0648 ONLY
	20150704_021300	TC0648 QC
	20150704_021400	TC0648 BIN2
	20150704_021500	TC0648 BIN4

try them during the loop w/o disturb

TN | NOTES | LUCI

20150704_021909 | GLAO QC | 20150704_0067 ÷ 0071 converging
021938 | G = 0.2; 0.4; 0.3
022014 | 0072 ÷ 0076

We load the distwb = 1.2"
022532 G = ramping
022614 G = 0.4; 0.4; 0.3
022735 G = 0.4; 0.4; 0.3
022806 G = 0.4; 0.5; 0.4 . 20150704_0091 : 95

HEXA : −1.87 | −250 BOARD −72.88
−6.9 | 110 −55.45
−1.96 | 56.5

20150704_LGSW_field_y axis
x axis
} FoV coordinates in board x, y
↓
acquired in CL with QC

yellow : −55.4 ; −73.7
red : −55.0 ; −72.6
blue : −55.5 ; −73,3

PI ∅ POS TO MATCH FoV: −1.65 ; −3.30 | −4.75 ; +1.40 | +0.90 ; −0.50 → TN 20150704_082501 to check RED FoV misplacing

→ 20150704_082903

↓

•NEW JITTER INITIAL POSITION: ~~20150704_~~

1) We close on FLAO only and move the stages in x y measuring the flux
PI are fixed in the initial position

1) close on LGSW only and center hexapod
(with ∅ stages null and ∅ initial position)
3) once determined the stages xy to center each FoV we close the jitter and write the position as offset

	stages XY		PI	init
blue	−73.3	−55.48	−1.65	−3.45
yellow	−73.75	−55.52	−5.25	0.40
red	−72.8	−54.95	0.40	−1.35

104235 diffused light on BLUE
104307 Ooh
104330
104408 RED
104427
104449
104531 YELLOW
104556
04626
05143

ith dome light no trigger PI -2.66; -1.79
-3,50; 1.56
-2.11; -0.05

11691 } ↗ ↖ } 112504
11707 } 112654
11952 } PI @ values from scan
12015 }
12059 } PI @ ϕ { 112324
12116 }

/7 • QC test @ fain end
• LOSW test

p dexed on QC + LOSW

= 15 20150705_020708
020743
020838 G=0.4; 0.45; 0.4

/7 HEXA -1.87 | BOARD -71.4
-7.3 -58.8
-2.0184 53.5 → 56.5 for U30
-20
153

P MOT 739; 519 | PI -2,41; -0.32
310; 733 0.72; -1.25
415; 677 4.86; -3.61

QC FAINT END

10:30 : finally we can load disturb and check low flux

QC M= 13.5 (when CL) 20150705_174537 0.2; 0.3; 0.1
174837 0.3; 0.95; 0.4
174918 0.3; 0.5; 0.5
175000 0.3; 0.4; 0.3

we see that 0.4 gain for LO and HO is fine

QC M= 14.7 183314 183408 183442 20150705.0168÷0172 there were a certain point at which we were comp the LUCI orientation → while TS converges we have good image

M= 16.4 184606 184653 TS@50Hz 175 ÷ 180 best before loading the shell

→ @ 180 warnings the shell goes to PANIC state

M= 18.5 ~~185824~~ qcopt gain TS@10Hz QC@236Hz
190200
190235 TS OFF flows
191109
191151

So we go to high flux on NGS and we take LGSW slopes offset

M= 15.5

~~20150705_192732~~ LGSW SLOPE OFFSET for N30

TN: 193752

~~20150705_193830~~, 194733 → BAD they are multiplied by 2 and 4

TN: 194558

LGSW SLOPE OFFSET: ~~20150705_204633~~ all bad

TN 205538

LUCI ~~darks~~ backgrounds in DT: 20150706_0030 ÷ 0039

LGSW SLOPE OFFSET: 20150705_211428 ← GOOD for N30 in DT

211618 G= 0.2; 0.1; 0.05 0043 ÷ 0047

we load again 1.2" disturb

15.5 211822 OL
211912 G = 0.28; 0.4; 0.35 (QC@600Hz ↓) (load ↓) 0052
212101 G = 0.37; 0.4; 0.3 up to 0057

try to double the LGSW flux
212348 G = 0.37; 0.4; 0.3 0058 ÷ 0062

14.7 212532 " QC@1KHz 0063 ÷ 0067

18.0 213440 QC@280Hz, LUCI in H band
213507

move luci to H band and acquire new background: 0073 | 0082
214113 QC@280Hz 0084 ÷ 0093
214206 TS gain 5.0, 10Hz ~~0094 ÷ 0105~~

19.0 215422 QC@ 200Hz ~~0106 ÷ 0115~~ 0106 ÷ 0115
215533 TS@ 5Hz

CL backgrounds: 0096 ÷ 0105, 0.5 s integration
215634 OL 0116 ÷ 0125
18.7 221816 CL QC@170Hz, TS@5Hz
221943 127 ÷ 136
222054 OL(?)
222117 OL 137 ÷ 146

CL backgrounds: 0147 ÷ 0156, 2 s integration

QC RESIDUAL

load 1.2" disturb, closing just TT loop on QC at ≠ fluxes
filter loop is closed but gain is low

TN		NOTES
303146	0	~~0005 ÷ 0015~~ OL
303250	1	
304009	2	
308147	3	QC, M = 18.5, g = 0.2 100Hz
309006	4	
309127	5	broken
310011	6	also high order

TN		NOTES
231730	7	M = 16.0, 500Hz, g = 0.3
231801	8	
231837	9	load ← high order only G = 0.0 0.2 0.1
231914	10	← also TT
231955	11	← we do a mess with this

TN	NOTES	
232517	M=14.7 ; 1KHz; g=0.3	12
232537		13
232605	G=0.3; 0.4; 0.3	14
232708	G=0.3; 0.2; 0.1	15
20150706_011133	M=19.5, 100Hz, g=0.2 all modes 0.2; 0.4; 0.3	16 17
011246	0.2; 0.2; 0.1	18
011331	0.2; 0; 0 → worse than OL	19
011357		20
011445	OL	21

TT modulation offset = -1.57 +0.0 } independent from ROT angle

PUP ROT to LUCI ROT

K = 271° - ½ LUCI BIN1

K = 308°.85 - ½ LUCI BIN2

K = -270°.35 - ½ LUCI BIN4

-73.4
-55.4
56.5

QC/PYR FAINT END / RES

distant = 1.2"

M = 15
on PYR GUI
50-50 on FW1

PYR : 200Hz, 45 x/sub g=4
043806
043826

QC : 750Hz, 220 counts/it g=0.37
044122
044141

M = 16.2

100Hz, 23 x/nbop g=0.28
044836
044859

Qc : 560 Hz ~100 cts/it
045504
045531 (broken ?)

M = 17_5

~~500 Hz 1000~~
~~045504~~
~~045531 (broken ?)~~

~~100Hz 10 x/nbop~~
050107
050130 broken

We remove distant and we close on QC high flux: this gives us an hint of ~~the~~ on-axis source vibration (using jitter of LGSW)

~~060033~~	G=0.46; ~~0~~; ~~0~~	060213	G=0.46; 0.3; 0.1
060133	G=0.46; 0.3; 0.1	060252	jitter open
~ 24 min		~ 18 mins	~ 20 mins

try to close TT on LGSW : 061434 G=0.3; 0.3; 0.1
jitter ↓ ← 061619 G=0.3; 0.0, ϕ
11 mas

g = 0.4, 0.4, 0.3 20150706_063244

0.4, 0.4, 0.1 — " — 063358

0.2, 0.4, 0.2 063502

00 we build the HYBRID REC for floor BIN4

20150706 – 065600 built with LGSWREC 20150704-021100

μ disturb = 1.2" and light = M=15, PYR corrects 36 modes

1101 G = 1.5, 1.5, 0.4

1209 ↓ FeII, 0.17 s exp

1323 G = 2.5; 1.5; 0.4 0182

2101 G = 5.6, 2.0, 0.4 0190 ÷ 0195

2122

3122 G = 5.6; 2.0; ϕ

3316

3613 LGSW + QC, mirror PANIC

4249 G = 0.35; 0.4; 0.35

4342

4550

5432 motors back to ~~ok~~ position used to acquire IM, loop works better even if there is still the bite on top-right

5828 G = 0.1, 0.1, 0.05

DS center coordinates -75 | applied
-50 | board setup

g-ref goes to 28; 38 @ BIN4