

2020.11.22
Fred, Isa (Calern) & Olli (CHARA)

initial config.

UT time - reference telescope underlined>

B1	B2	B3
E1P1	E2P2	W2P5
S2P5	S1P4	
	W1P2	

Summary of the night's acquisitions

Program	Target	Config.	#calibrated or #pts	mean r0 (cm)
V66	HD5394	E1E2	1 at HA~-01:00	9 (E1)
	HD10516	E1E2	1 at HA~-01:10	10
V27	HD31964	E1E2	CTCTC(TC) at HA~-03:35 to -02:25	9
V66	HD5394	E1E2	1 at HA~+04:30	8
	HD37202	E1E2	1 at HA~+03:30	8
	HD58715	E1E2	1 at HA~+02:40	7

Conclusion :

V27_Mourard - MR656 eps Aur E1E2x3

V66_Wysocki - MR656:

gam Cas E1E2x2 at -01:00 & +04:30

phi Per E1E2x1 at -01:10

bet CMi E1E2x1 at +02:40

zet Tau E1E2x1 at +03:30

0:40 arrival to the VEGA control room. At Mount Wilson, cloudy. "It's a pretty thin cover."

Like yesterday necessary to reboot the pc-computer of the red detector.

01:10 we want to try the chk star of the V67 program **HD202904**. But CHARA not ready.

01:55 the turbulence appears quite bad: dispersion on the red detector. " there's a jet stream above" "The wave front sensor & labao spots are also restless ".

02:11 offset-E1 1590 μ m CLIMB_B1: 6.08 CLIMB_B2: 4.91

we slew call= HD196504 but not enough photons for Climb and Vega. V67 program is not possible.

+ 02:20 error socket connexion (M6 controller) like yesterday. Fred's acting during the shift to V66, action including finally an init of ics and a reboot of the pc-redDet.

02:48 One of the IR spots has gotten lost. Olli has to go to the lab.

03:10 Third beam realigned + rehomeing of the carts

M6-server KO again... So bad serie. + cloudy conditions.

V66- PI Wysocki E1 E2 MR656

03:38 offset-E1 1340 μ m CLIMB_B1: 6.05 CLIMB_B2: 4.91

HD5394.2020.11.22.03.38 HA-01:00

Climb tracking OK - Flux on Det ~700 ph so 1/3 less photons than yesterday, but increasing to 1500 at the end of acquisition.

at blk 20 SNR~20 r0(E1)=9cm

40 blks

04:13 offset-E1 1650 μ m CLIMB_B1: 6.04 CLIMB_B2: 4.91

HD10516.2020.11.22.04.14 HA-01:10

Climb tracking OK - Flux on Det ~400 ph r0(E1)=12cm at blk 10 SNR~7

unstable Climb tracking at around blk20, and becomes worse during the last ~10blks. SNR decreases on VEGA too, naturally.
40 blks

[D_CMR656.2020.11.22.04.33](#)

V27- PI Mourard E1 E2 MR656

cal=HD32630 target=HD31964 eps Aur

04:53 offset-E1 2340 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

HD32630.2020.11.22.04.53 HA-04:00

Climb tracking OK - Flux on Det ~1400 ph r0(E1) ~7cm
at blk5 SNR~50
20blks

05:07 offset-E1 2160 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

again M6 controller KO; beam 2 not optimally adjusted (vertically) but we prefer to record

HD31964.2020.11.22.05.07 HA-03:37

Climb tracking OK, well stable - Flux on Det ~1500 ph r0(E1) ~8cm
at blk15 SNR~15
20blks

We go to Cal: the two beams are not well superimposed, but we still opt for not loosing 10mn to make M6 controller working again.

05:21 offset-E1 2200 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

HD32630.2020.11.22.05.21 HA-03:25

Climb tracking of mean average quality - Flux on Det ~1000 ph r0(E1) ~7cm
at blk10 SNR~24
20blks

operations now "usual" to recover the control of the optical adjustments, but this time unsuccessful! After doing again, it's ok... untill again M6Server OFF after a second click ...Damned. Both beams are superimposed but on the upper half part of the adjustment window on the detector => we record since visibility of eps Aur rapidly decreases with hour angle.

05:54 offset-E1 1990 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

HD31964.2020.11.22.05.54 HA-02:50

Climb tracking OK, well stable - Flux on Det ~1400 ph r0(E1) ~9cm
at blk15 SNR~5
20blks

06:07 offset-E1 2020 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

HD32630.2020.11.22.06.07 HA-02.40

Climb tracking of mean average quality at the beginning and then better - Flux on Det ~900 ph r0(E1) ~9cm
at blk10 SNR~9 20blks

06:23 offset-E1 1900 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

Target beams not well superimposed on the detector. In the doubt, we record.

HD31964.2020.11.22.06.23 HA-02:20

Climb tracking OK - Flux on Det ~1500 ph r0(E1) ~9cm
blind recording (vis2 ~0.1)

The GUI of the control freezes, preventing from adding blocks ... Just to make Fred more angry (but not hungry - he has eaten ... hopefully for me ;-)

06:40 offset-E1 1930 μ m CLIMB_B1: 6.01 CLIMB_B2: 4.91

beams superimposed but not centred like before.

HD32630.2020.11.22.06.40 HA-02.05

Climb tracking OK - Flux on Det ~1700 ph r0(E1) ~9cm
at blk10 SNR~30
20blks

D_CMR656.2020.11.22.06.51

We may go to the V66 program, but first we must recover the control of VEGA.

Climb fringes on HD37202

07:06 Restart of pc-ctrl-vega after a manual shutdown made by Olli. And whole initialization made but M6 Controller still KO.

~08: restart of the network switch in the blue cabinet. And it seems to be effective: M6 controller is alive...

V66- PI Wysocki E1 E2 MR656

we go to gam Cas.

And again error socket connection...

So, issue not solved and Flux optimization on the detector stays not possible.

Following targets are bright and on differential mode, so we continue, but "worry, so not happy".

08:54 offset-E1 760 μ m CLIMB_B1: 6.05 CLIMB_B2: 4.91

HD5394.2020.11.22.08.54 HA+04:20

Climb tracking OK - Flux on Det ~ 3200 ph r0(E1) ~8cm

Warning: 7 first blks to reject (OPD position not optimal). Correct OPD from blk 8

08:57 offset-E1 800 μ m CLIMB_B1: 6.06 CLIMB_B2: 4.91

20blks

flux too high ==> neutral density 0.3

HD5394.2020.11.22.09.06 HA+04:30

Climb tracking OK - Flux on Det ~ 1500 ph r0(E1) ~8cm

fringe peak ok.

20blks

09:31 offset-E1 2260 μ m CLIMB_B1: 6.06 CLIMB_B2: 4.91

HD37202.2020.11.22.09.31 HA+00:15

Climb tracking relatively OK - Flux on Det ~ 400 ph r0(E1) ~8cm

@blk 13, bad climb tracking. Flux too low from blk 21. Acquisition stopped at blk25.

Warning: both beams are not well superimposed, explaining the low SNR joined to the absorption due to the cloudy sky.

so big doubt about the quality of this measure.

Warning: Record of the spectral calibration forgotten ==> for data processing: take the one of V27.

09:45 clouds - stand by -

Passage of Denis. Discussion about the M6-controller issue.

Idea to check the power and network boxes of M6 on the top of the VEGA combiner table: unplug and plug the connected cables.

10:40 Olli did. And it seems that has brought improvement (Tests of some X,Y shifts through M6Server work) but during one hour. M6 controller issue occurs again.

Another idea to be able to adjust the beams on the slit: use the Tip-Tilt LAB, if the required adjustments are not too large, before any Climb alignment, using TTB1 and TTB2 with the adequate pico, the number of which must be asked to CHARA. Olli does not know it, and if it is possible.

We plan to slew HD37202 (zet Tau) but before, Olli traces the network cable of the "M6-boxes" and unplug it. There were not other free ports so he plugged it back into the same one. Also has recycled the controller power. And M6-Controller works again, the question is: how long?

12:52 offset-E1 1510 μm CLIMB_B1: 6.10 CLIMB_B2: 4.91

with flux optimization, yeah!

HD37202.2020.11.22.12.52 HA+03:30

Climb tracking OK - Flux on Det ~ 1800ph r0(E1) ~7cm

at blk20 SNR~50

40 blks

But again a test on M6 produces an Error socket connection. Damned.

We go to bet CMI, the alignment on the slit beeing perhaps almost identical... and that is the case. So last record of the night:

13:18 offset-E1 1960 μm CLIMB_B1: 6.10 CLIMB_B2: 4.91

HD58715.2020.11.22.13.18 HA+02:40

Climb tracking OK - Flux on Det ~ 2000ph r0(E1) ~7cm

at blk20 SNR~22

Climb tracking worse for the last ~10 blks

40 blks

D_CMR656.2020.11.22.13.37