

2020.11.23
Fred, Isa (Calern) & Chris (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	HD10516	S1S2	1 at HA~+03:45 (HA at the begin of record))	8
	HD37202	S1S2	1 at HA~+01:10	9
	HD58715	S1S2	1 at HA~-00:10	9
	HD37202	S1S2	1 at HA~+02:00	9
	HD58715	S1S2	1 at HA~+00:40	9
	HD37202	S1S2	1 at HA~+03:00	9
	HD58715	S1S2	1 at HA~+01:30	7

Conclusion :

V66_Wysocki - MR656 -
 phi Per S1S2x1 at +03:45
 bet CMi S1S2x3 at -00:10, +00:40, +01:30
 zet Tau S1S2x3 at +01:10, +02:00, +03:00

0:40 arrival to the VEGA control room. At Mount Wilson, clear sky, a little nebulous.

Big issue occurred during the day: an Edison outage which lasted for about 25-35 minutes, without any notice or warning beforehand. The mountain generator was switched on asap after the power dropped out. During switch-over to the generator the power to the CHARA facility was dead for about 5-6 minutes, and then for a few minutes when Larry switched back to the Edison feed once it was restored. So Chris is now tracking down all the things that are not working... and there are a lot. From VEGA side: the restart seems ok.

01:20 Chris: "I do not think E2 will be available tonight, W1 is also questionable."

02:10 " Vega periscope is not moving". Laszlo is looking into what to do.

02:50 Chris got the periscope to move once and then is working on alignment, but he cannot get it back down. So no light for us...

03:15 wfs W1 restart needed. Chris goes out to W1.

Here, something not normal on the detector with the spectral calibration: entire field not covered, more than 1/4 bottom part vignettted, by what ? no change after re-init of the Ics. We'll see on stellar photons.

Positive news (we need some!) thanks to Fred: there is now a button On/Off of the M6 Controller power in the general Power Control Gui. Yesterday at the end of the night and thanks to Olli, the power cable is plugged now in a power box in the blue cabinet. This way to restart easily the M6 Controller independently from Ics will be helpful to continue to observe: it appears that this restart prevents from the issue during a given time and allows then the alignment on the entrance slit of the spectrograph. **To notice: until the end of the night, on-off only once !**

04:30 Chris is writing the tech report. E2 and W1 no usable.

But more critical for us for this night: no way at the moment to move the periscope, so no light on VEGA.

The night is windy and so with ashy issue. Probable that, without the outage, observations were not possible or of bad quality.

07:15 Periscope curiously at down position (without any Chris action). No laser possible for chara alignment but we try to have stellar visible photons, with the only possible config tonight : S1S2W2, and without AO (just labao).

07:55 aligning on gam Cas

difficulty for Niro setup. Star on the tree for S2.

but big issue for us: no light on the detector.

The cardboard baffle between the combiner table and the spectro. has moved, detached and blocking part of the beams hole; Chris put it back, and light is back! Probably that explains the vignetting observed with the spectral lamp.

We go to phi Per. Climb aligned.

Then, issue with Climb for searching the fringes: a frame rate measured to 0, reports Chris, preventing Climb from getting and tracking the fringes ==> Vega will do the job, rapidly since we have the offset from the first night.

Warning : Vega tracking

09:04 offset-S1 1480 μm

HD10516.2020.11.23.09.04 HA+03:45

Flux on Det ~600ph 2/3 less than the first night, which had better turbulence conditions, but also AO working.

r0(S1)~8 cm

30 blks

we go to zet Tau.

curiously flux ratio S1/S2~4 anomaly low flux on S2~300. Move of the dome, which vignettted but always low flux on S2 (ratio of 3). Check of the dichroic alignment. Difficulty with the periscope which must be Up. Finally Down and light on Vega. Reduction of the flux ratio to 2, no better. S2 pupil not so nice as the S1one. We record.

10:24 offset-S1 1800 μm

HD37202.2020.11.23.10.24 HA+01:10

Flux on Det ~1000ph also 2/3 less than the first night

r0(S1)~9 cm

30 blks very good tracking

10:50 offset-S1 1980 μm

HD58715.2020.11.23.10.50 HA-00:10

Flux on Det ~1600ph flux ratio of 2 also between both beams

r0(S1)~9 cm

30blks very good tracking

11:15 offset-S1 1820 μm

HD37202.2020.11.23.11.15 HA+02:00

Flux on Det ~1400ph with a flux ratio S1/S2 of 4

30blk always good tracking

11:39 offset-S1 1960 μm

HD58715.2020.11.23.11.39 HA+00:40

Flux on Det ~1600ph r0(S1)~9 cm

30blks always good

12:05 offset-S1 1710 μm

HD37202.2020.11.23.12.05 HA+02:50

20 blks

12:18 offset-S1 1680 μm

HD37202.2020.11.23.12.18 HA+03:00

20 blks

12:34 offset-S1 1950 μm

HD58715.2020.11.23.12.34 HA+01:30

30blks

flux fluctuating.

we go to HD37202 for the last time of the night. Ready to record but clouds ready to spoil the end of this "infuriating" night as Chris said. So we stop, hoping that the issues of the periscope, W1, E2 and Niro detector will be solved tomorrow, or today, by Chara team.

[D_CMR656.2020.11.23.13.07](#)

