

Log CHARA/VEGA 2020-06-11

Observers: Fred (VEGA), Anthony the Old (Report)
Olli (Mt Wilson)

UTC time:

03:05 Starting Observing Night

S2 POP5 B1 - S1 POP4 B2 - W1 POP1 B3

V01 (R. Ligi) – HD133112

OPD offset: +150 μ m (left)

Target HD133112 (known also as HR5599)

Cal1 = HD124988

Cal2 = HD154445

LABAO = HD132052;

Check1 = HD132052 (Bright but big mR=4.2 D=0.64mas)

Check2 = HD129956 (Small but dim mR=5.6 D=0.23mas)

03:34: NIRO Aligned on HD132052

03:40: Alignment of VEGA on the check.

03:49: VEGA flux varying a lot on S1 without apparent reason.

Only 250 photons at max on a mR=4.2 star, this isn't good!

03:51: Olli says S1 seems to have problem with the AO Tip Tilt

04:04: It's better now 500 photons and W1 and 350 on S1.

04:09: Fringes on CLIMB (S1=-2310)

04:13: Nothing on VEGA we'll go to the dimmer check star

04:22: NIRO alignment looks bad again according to Olli

04:29: Olli cannot align NIRO on that one. We are going back to Check1

04:32: NIRO align ok on Check1. Back to Check2

04:37: Nice fringes on CLIMB.

04:45: Very faint fringes on VEGA close to the previous position [CLIMB_B2=4.20](#). The science star is going to be tough. Let's go to the first calibrator.

r₀~8cm

~~HD124988.2020.06.11.05.05~~

S1 -2300

CLIMB_B2=4.22

30 blocs

Seeing around 6 cm. Fringe peak barely visible on VEGA but steady on CLIMB. However, as soon as we started the recording, they start to move a lot on CLIMB and got lost. Aborted. Olli tries to realign NIRO.

05:20: But it failed. He said that he must realign the beacons.

05:33: Done. Steady Fringes on NIRO. We now have twice the flux on VEGA 😊. Fred is checking VEGA alignment. 50 photons on S1 and 80 on W1.

05:40: Very faint peak on VEGA and fringes sometimes good sometimes shaky on CLIMB. Let's record anyway.

r₀~7cm

HD124988.2020.06.11.05.43

S1 -2200

CLIMB_B2=4.24

30 blocs

05:58: Done. No problem during the recording. Fringe peak was faint but nice and CLIMB fringes steady. Going to the target

r₀~7cm

HD133112.2019.06.11.06.02

S1 -2130

40 blocs

Recording in blind mode.

06:12: Fringes are there with SNR= 3 after 20 blocks.

06:22: Done. Going to Cal2

r₀~5cm

HD154445.2020.06.11.06.31

S1 -2270

CLIMB_B2=4.18

20 blocs

06:23: Olli needs to realign NIRO again.

06:28: VEGA beams are a bit offset, but flux is nicely concentrated. The AOs seem to work properly. Nice fringes on CLIMB.

06:31: Bright and nice fringes on VEGA but slightly offset. Compensation with CLIMB_B2. Finally recording...

06:42: Done smoothly. Back to target

$r_0 \sim 7\text{cm}$

HD133112.2019.06.11.06.54

S1 -2130

40 blocs

06:50: VEGA beams are again slightly offsets

06:54: Fringes on CLIMB.

Recording in Blind on VEGA

07:09: Fringe peak on VEGA but shifted by +100um. SNR=3 after 30 blocks.

07:13: Done. Back to Cal2

$r_0 \sim 8\text{cm}$

HD154445.2020.06.11.07:21

S1 -2270

CLIMB_B2=4.18

20 blocs

07:21: Nice fringes on both VEGA and CLIMB

07:31: Done nicely.

$r_0 \sim 7.5\text{cm}$

D_CM720.2020.06.10.07.41

S2 POP2 B1 – W2 POP5 B2 - W1 POP1 B3
V63 (O. Creevey) – HD187217

OPD offset: +150 μ m (left)

Target HD187217
Cal1 = HD178207
Cal2 = HD184171
Check = Cal2

Lots of problems to change config. Then CLIMB crashing. After many starts, we decided to record with VEGA tracking as the fringe peak is nice on it

HD184171.2020.06.11.09.35

S2: None because VEGA is tracking

CLIMB_B1= We don't know

20 blocs

09:44: Done. CLIMB is back. It might be safer to redo this measurement with it before going to the target.

r₀~7cm

09:54: It's too high let's go to the target.

10:02: Nice fringes on CLIMB.

10:12: Trying to find fringe peak on VEGA but nothing yet.

10:19: Nothing on VEGA. Going back to the CAL2

HD184171.2020.06.11.10.36

10:35: Nice fringes on both CLIMB and VEGA.

10:40: Recording by mistake while Olli was realigning NIRO

10:45: Aborted

HD184171.2020.06.11.10.40

S2: 90

CLIMB_B1= 7.42

CLIMB_B2= 4.81

20 blocs

10:40: Finally recording.

10:50: Done. Back to target

r₀~7cm

HD187217.2020.06.11.10.57

S2: 270

CLIMB_B1= 7.42

CLIMB_B2= 4.81

30 blocs

10:57: Recording in blind on VEGA but with very bright and stable fringes on CLIMB

11:10: Done. We didn't see the fringe peak on VEGA.

r₀~6cm

HD184171.2020.06.11.11.16

S2: 280

CLIMB_B1= 7.46

20 blocs

11:16: Recording nice and steady fringes.

11:20: CLIMB fringes are now moving a lot (Around block 12)

11:22: CLIMB fringes are now nice again (block 17)

11:25: Done. Back to target

r₀~8cm

HD187217.2020.06.11.11.30

S2: 450

30 blocs

11:30 Recording in blind. Fringes on CLIMB are not as bright as on the previous target and they are moving much more. The seeing looks the same.

11:45: Done. Not good but don't know why. Back to cal2.

r₀~7cm

HD184171.2020.06.11.11.51

S2: 330

CLIMB_B1= 7.50

20 blocs

11:51: Very nice fringes on both CLIMB and VEGA

12:03: Done smoothly. Back to a last target

$r_0 \sim 7\text{cm}$

HD187217.2020.06.11.12.07

S2: 570

23 blocs

11:07: Nice fringes on climb (unlike the last target) But recording in blind mode on VEGA.

11:15: Lost fringes at block 21.

11:18: Stop there (block 23).

D_CMR720.2020.06.11.12.19