

## Log CHARA/VEGA 2019-08-17

Observers: Fred (VEGA), Nicolas (Report and CoffeeS)  
Olli (Mt Wilson)

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UTC time:

02:40 Starting Observing Night

**E1 POP1 B1, E2 POP2 B2, W2 POP5 B3 (ref)**

**V52 (N. Nardetto) – SV Vul**

**OPD offset: +150 $\mu$ m (left), -300 $\mu$ m (right)**

**First target is HD198726, PI: 'Nardetto', Prog: 'V52' (Rmax)**

**Cal1 = HD190993**

**Cal2 = HD196740**

**LABAO = HD177724 ; check = HD184171**

03:12 Slewing to LABAO

03:19 Slewing to check star

03:25 Checking fringes on CLIMB

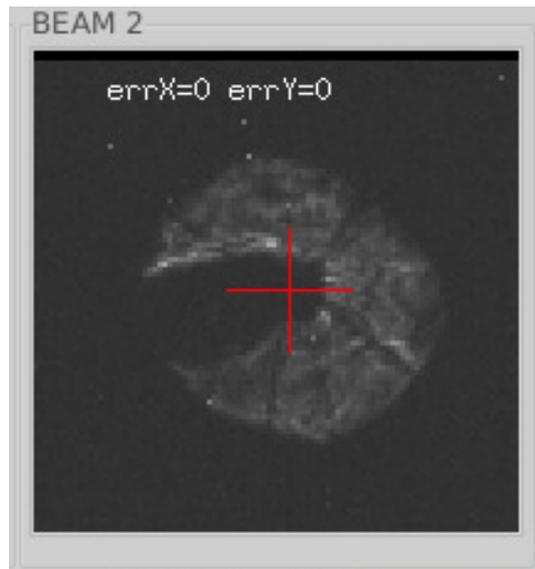
03:37 OPLE and CLIMB troubles

04.02 Still in trouble with CLIMB and OPLE. Now NIRO.

04:23 Olli find the fringes on CLIMB. The offsets are very different from the ones of the first night probably because of the work done on DM yesterday.

04:29 The fringes on CLIMB are extremely weak and the cophasing is tricky. But Fred is Fred !

04:40 Something is vignetting the pupil E2.



05:05 After discussions (but no solutions) in order to resolve the problem, we decided to continue the program.

### **HD190993.2019.08.17.05.03**

*E2 pupils is vignetted*

*With LDC OFF*

E1 = 2270 $\mu$ m

E2 = -580  $\mu$ m

CLIMB\_B1 = 6.61

CLIMB\_B2 = 5.44

20 blocs

The three peaks are extremely nice.

### **HD198726.2019.08.17.05.24**

*E2 pupils is vignetted*

*Difficulty to cophase*

E1 = 2000 $\mu$ m

E2 = -760 $\mu$ m

CLIMB\_B1 = 6.52

CLIMB\_B2 = 5.38

20 blocs

05:27 Fred notices that LDC are OFF! After OPLE troubles, the LDC are indeed set automatically on OFF. Olli, put them ON, put it shifts our fringes. We stop this record and do another one.

**HD198726.2019.08.17.05.50**

*E2 pupils is vignetted*

*With LDC ON...*

We lost the fringes position and we need to scan again, and again. Frustrating because seeing is around 13 cm now. Excellent conditions.

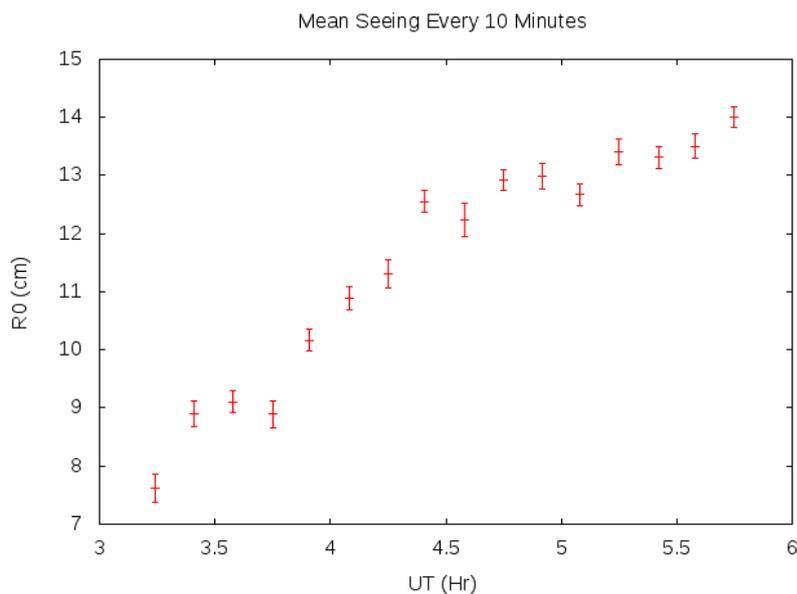
E1 =  $-630\mu\text{m}$

E2 =  $-3370\mu\text{m}$

CLIMB\_B1 = 6.50

CLIMB\_B2 = 5.36

The peak 1 is nice, the second (longest baseline) is seen (V2 around 0.1 in principle) while the third (intermediate baseline) is not.



**HD190993.2019.08.17.06.05**

*E2 pupils is vignetted*

*Rescan is necessary with CLIMB in order to find the fringes.*

E1 =  $-170\mu\text{m}$

E2 =  $-3070\mu\text{m}$

CLIMB\_B1 = 6.53

CLIMB\_B2 = 5.38

20 blocs

The three peaks are extremely nice.

**HD198726.2019.08.17.06.19**

*E2 pupils is vignette*

E1 = -330 $\mu$ m

E2 = -3150  $\mu$ m

The peaks 2-3 and 1-3 are hardly seen.

**HD196740.2019.08.17.06.31**

*E2 pupils is vignette*

E1 = -220 $\mu$ m

E2 = -3080 $\mu$ m

The three peaks are extremely nice.

**HD198726.2019.08.17.06.42**

*E2 pupils is vignitted*

E1 = -100 $\mu$ m

E2 = -3000  $\mu$ m

Nice fringes.

**HD196740.2019.08.17.06.55**

*E2 pupils is vignitted*

E1 = -50 $\mu$ m

E2 = -2920 $\mu$ m

Seeing around 8-9 cm.

**HD198726.2019.08.17.07.08**

*E2 pupils is vignette*

E1 = 60 $\mu$ m

E2 = -2840 $\mu$ m

**HD196740.2019.08.17.07.37**

*E2 pupils is vignitted*

E1 = -40 $\mu$ m

E2 = -2740 $\mu$ m

CLIMB\_B1 = 6.55  
CLIMB\_B2 = 5.40  
Seeing around 8-9 cm.

**HD198726.2019.08.17.07.50**

*E2 pupils is vignetted*

E1 = -60 $\mu$ m

E2 = -2730 $\mu$ m

CLIMB\_B1 = 6.55

CLIMB\_B2 = 5.40

Seeing around 8-9 cm. The three peaks are still very nice.

**D\_CMR720.2019.08.15.08.02**

As we have this problem of vignetting on E2, we decide to switch to another configuration.

**S2 POP2 B1, S1 POP1 B2 (ref)**

**V70 (R. Klement)**

**OPD offset: +750 $\mu$ m (left)**

**target = Deneb (HD197345)**

**HR mode 656nm**

LABAO and check on the target itself

**HD197345.2019.08.17.08.29**

S2 = 1610 $\mu$ m

CLIMB\_B1 = 7.25

CLIMB\_B2 = 4.58

Seeing around 8-9 cm.

Very nice fringes on CLIMB and VEGA.

40 blocs. **AH=1h50**

See the second measurement below.

**D\_CHR656.2019.08.17.08.49**

**S2 POP2 B1, S1 POP1 B2, W2 POP5 B3 (ref)**  
**V38 (A.Salsi)**

**OPD offset: +150 $\mu$ m (left), -300 $\mu$ m (right)**

**Target= HD195810**

**cal1=HD189090**

**cal2=HD196740**

**LABAO=check=target**

9:04 CLIMB and VEGA are cophased on the target. Long time to find the fringes on the cal 2.

**HD196740.2019.08.17.09.19**

S2 = -650 $\mu$ m

S1 = -2530 $\mu$ m

CLIMB\_B1 = 7.55

CLIMB\_B2 = 4.40

CLIMB fringes are stable. Nice fringes on VEGA. The three peaks are seen.

Seeing around 8-10cm

**HD195810.2019.08.17.09.32**

S2 = -640 $\mu$ m

S1 = -2390 $\mu$ m

CLIMB\_B1 = 7.53

CLIMB\_B2 = 4.52

Seeing around 8-10cm

Nice fringes on CLIMB and VEGA. The three peaks are seen.

### **HD196740.2019.08.17.09.46**

S2 = -540 $\mu$ m

S1 = -2370 $\mu$ m

CLIMB\_B1 = 7.55

CLIMB\_B2 = 4.55

Seeing around 8-10cm

Nice CLIMB and VEGA fringes

### **HD195810.2019.08.17.09.58**

S2 = -530 $\mu$ m

S1 = -2210 $\mu$ m

CLIMB\_B1 = 7.56

CLIMB\_B2 = 4.54

Seeing around 8-10cm.

Nice CLIMB and VEGA fringes

### **HD196740.2019.08.17.10.12**

S2 = -440 $\mu$ m

S1 = -2220 $\mu$ m

CLIMB\_B1 = 7.57

CLIMB\_B2 = 4.57

Seeing around 8-10cm

CLIMB fringes are rather stable, and VEGA fringes are nice

### **D\_CMR720.2019.08.17.10.22**

**S2 POP2 B1, S1 POP1 B2 (ref)**

**V70 (R. Klement)**

**OPD offset: +750 $\mu$ m (left)**

**Target = Deneb (HD197345)**

**HR mode 656nm**

**HD197345.2019.08.17.10.35**

S2 = 1590 $\mu$ m

CLIMB\_B1 = 7.21

CLIMB\_B2 = 4.58

Seeing around 8-9 cm.

Wonderful fringes on CLIMB and VEGA.

40 blocs. AH=4h

**D\_CHR656.2019.08.17.10.54**

**S2 POP2 B1, S1 POP1 B2, W2 POP5 B3 (ref)**

**V38 (A.Salsi)**

**OPD offset: +150 $\mu$ m (left), -300 $\mu$ m (right)**

**Target HD33959A**

**cal1 = HD34452**

**cal2 = HD35239**

**labao=HD40312**

**check=target**

11:04 LABAO done, aligning NIRO

11:08 VEGA aligned

11:08 Slewing to target

11:18 CLIMB and VEGA cophased. We slew to cal 2

### **HD35239.2019.08.17.11.24**

S2 = -2140 $\mu$ m

S1 = -4060 $\mu$ m

CLIMB\_B1 = 7.52

CLIMB\_B2 = 4.52

Seeing around 8-10cm

CLIMB fringes are weak and unstable (r0=6cm and low elevation), and VEGA fringes are clear.

### **HD33959.2019.08.17.11.35**

S2 = -2060 $\mu$ m

S1 = -4060 $\mu$ m

Nice fringes on CLIMB and VEGA (2 peaks clear, a third most probably)

### **HD34452.2019.08.17.11.46**

S2 = -2050 $\mu$ m

S1 = -4070 $\mu$ m

The CLIMB and VEGA fringes are nice. The three peaks are seen on VEGA. Seeing of 9 cm. Stable.

### **HD33959.2019.08.17.11.58**

S2 = -2010 $\mu$ m

S1 = -4070 $\mu$ m

CLIMB\_B1 = 7.51

CLIMB\_B2 = 4.51

Nice fringes

### **HD35239.2019.08.17.12.17**

S2 = -2010 $\mu$ m

S1 = -4080 $\mu$ m

Nice fringes

**HD33959.2019.08.17.12.28**

S2 = -1920 $\mu$ m

S1 = -4000 $\mu$ m

Nice fringes

**HD34452.2019.08.17.12.39**

S2 = -1940 $\mu$ m

S1 = -4030 $\mu$ m

Nice fringes

**D\_CMR720.2019.08.17.12.49**