

## Log CHARA/VEGA 2017-11-09

Observers: Denis & Fred & Elisson & Olli

UT2h00: we start everything. Clear sky but >80% RH.

UT5h00: RH is going down very rapidly. The hope is back.

### V65: S2P1B1-E2P4B2-W2P5B3-W1P3B4

UT5h40: preparation of the opening. Observation is possible up to UT7h10

UT6h10: We open and slew to HD3360 the check star. Alignment of NIRO and VEGA. Search for fringes at 7h30. S2=-1500, E2=-570. W1=2.38. B1=-0.31, B2=0.07.

UT7h40: target V649Cas. Pupils realigned. R0 around 8/9 cm. S2=-1730, E2=-360. W1=2.72 but hard to see them and not sure there are at the correct place. No possible tracking on W1. Recording **V649CAS.2017.11.09.06.55**. r0 around 10cm. Fringes ok on CLIMB. S2 is lost at block 25. Stop. Block 25 is not good. As a conclusion, this program is really hard even with 10cm r0. Probably the star is too faint without the AO.

UT7h07: HD2011, CAL2. R0=11cm. **V649CASCAL2.2017.11.09.07.14**. S2=-1660, E2=-480, W1=2.62. Recording. Tracking ok on CLIMB with some piston. Manual tracking on W1. 30 blocs.

**D\_R2720.2017.11.09.07.29**

### V66: W2P5B3-W1B4P1

UT7h28: we start on HD35411. W1=+3.39. **HD35411W1W2.2017.11.09.07.44**. r0 between 7 and 10cm now. Very nice fringes well tracked. 30 blocs. Lower quality in the second half of the recording.

UT7h59: next object is HD35439. W1=+2.97. **HD35439W1W2.2017.11.09.08.04**. r0 around 10cm. Good fringes. 20 blocs.

UT8h14: next object is HD45542. W1=+2.0. **HD45542W1W2.2017.11.09.08.18**. r0 around 10cm. Nice fringes. 20 blocs. 400µm offset at bloc17.

UT8h31: last object (HA=+3h): HD6811. Hard time to find the fringes. Rehome W2 cart but Ok.

W1=3.6. **HD6811W1W2.2017.11.09.09.01**. Contrast very low apparently. Hard/impossible to track. r0 around 9cm... Really hard to see fringes.

**D\_R2656.2017.11.09.09.12**

### V72: S2P5B1-E2P4B2-W2P5B3-W1P1B4

UT9h10: we slew on the target directly (bright) HD58715=beta CMi. Alignment of NIRO and VEGA. We added a ND=0.3 for bet CMi=2500 photons/frame. S2=-1.52, E2=-2.77, W1=2.58. B1=-0.37, B2=0.01. The cophasing of B1B2 has been hard and we have just do the same correction as on B3B2. **BETACMI.2017.11.09.09.39**. r0 around 11cm. CLIMB tracking is quite good but with some piston excursion. Nice fringes. VEGA tracking on W1 is ok also.

UT9h48. We go to Cal1=HD58187. **BETACMICAL1.2017.11.09.09.53**. S2=-1.41, E2=-2.67, W1=2.42. So the previous cophasing was ok. Great. R0=10cm.

UT10h05: we go to Beta Cmi. **BETACMI.2017.11.09.10.12**. Offsets: S2=-1.38 mm, E2=-2.49 mm, W1=2.58 mm. R0 ~ 10 cm. 20 blocks.

UT10h20: calibrator 1. **ETACMICAL1.2017.11.09.10.36**. Offsets: S2 = -1.30 mm, E2 = -2.17 mm, W1 = 2.45 mm. Seeing is better: R0 ~ 10-15 cm. 20 blocks.

UT11h47: target. [BETACMI.2017.11.09.10.50](#). Offsets: S2 = -1.29 mm, E2 = -2.07 mm, W1 = 2.70 mm. R0 around 10 cm.

UT11h00: we change the POPs for S2 (POP3) and E2 (POP1) before going to calibrator 1.

## S2P3B1-E2P1B2-W2P5B3-W1P1B4

NIRO alignment. Using Beta Cmi for check.

UT11h20: we go to calibrator 1. Recording. [BETACMICAL1.2017.11.09.11.28](#). S2 = -1.49 mm, E2 = -1.52 mm, W1 = 2.83 mm. Seeing is around 11 cm. Nice pic on VEGA W1W2.

UT11h37: back to Beta Cmi. Recording. [BETACMI.2017.11.09.11.48](#). S2 = -1.47 mm, E2 = -1.37 mm, W1 = 3.14 mm. Seeing around 11 cm too. Nice pic on VEGA (W1W2), nice fringes on CLIMB.

UT12h00 : we go to calibrator 2 (HD 58923). [BETACMICAL2.2017.11.09.12.05](#). S2 = -1.50 mm, E2 = -1.15mm, W1 = 3.38 mm. Seeing around 10 cm. Fringes on CLIMB are not quite stable. Not so bright fringe on VEGA (W1W2).

UT12h15: back to the target Beta Cmi. Humidity is around 70% and shows a trend of increasing.

[BETACMI.2017.11.09.12.19](#). S2 = -1.42mm, E2 = -0.91 mm, W1 = 3.51 mm. Seeing around 8 cm. Nice fringes.

UT12h30: back to calibrator 1 now. Recording: [BETACMICAL1.2017.11.09.12.32](#). S2 = -1.43 mm, E2 = -0.73mm, W1 = 3.50 mm. Seeing around 9 cm.

[D\\_R2656.2017.11.09.09.12](#)

## V52: W2P5B3-W1B4P1

UT12h58: we start program V52. We go to T Mon (target, HD 44990) for searching fringes. We go to calibrator 2 (HD 43247). Recording 20 blocks. [TMONCAL2W2W1.2017.11.09.13.03](#). W1= 4.61 mm. Seeing is around 11 cm. We see fringe on VEGA.

UT13h11: to the target. Recording 20 blocks. [TMONW2W1.2017.11.09.13.15](#). W1 = 5.02 mm.

Seeing ~ 9 cm. Faint pic on VEGA. Humidity is decreasing (around 60%). Probably not a problem for the end of observations.

UT13h25: to calibrator 2. [TMONCAL2W2W1.2017.11.09.13.27](#). W1 = 4.95 mm. Seeing ~ 10 cm. No fringes after block 8 in reason of delay.

UT13h37: we try calibrator 3 (HD 46487). Fringes found on VEGA, recording.

[TMONCAL3W2W1.2017.11.09.13.42](#). W1 = 6.04 mm. Seeing ~ 8 cm. Nice pic on VEGA. It is the last point of the night. Spectral calibration.

[D\\_R2700.2017.11.09.13.56](#)