

Observational log CHARA/VEGA 2015-11-01

Observers: Frédéric, Jana, and Chris
Instruments: VEGA & CLIMB(tracking)

Configuration:

Telescope	Beam	PoP
E1	B1	P1
E2	B2	P2
W1	B3	P1
W2	B1	P5
S1	B2	P4
S2	B3	P5

Beginning of the observation:

- 01.07 Arrived to the control room.
- 01.21 Adding new starlists.
- 01.45 Everything is set up, coffee is ready, but the the night has not fallen yet.
- 02.20 Seeing is good, $r_0 \leq 12$ cm.
- 02.23 Changing PoPs to W2-B1-P5, S1-B2-P1, S2-B3-P5, it is more convenient for the programmes at the beginning of the night.
- 02.24 Targeting check star 32Peg = HD212097 to co-phase S1W2.
- 02.45 Pupils verified, slits too, aligning CLIMB.
- 02.50 We have an issue with CLIMB BC1, we can not launch it from here.
- 02.51 Fringes found on CLIMB. They seem to be quite stable.
- 02.55 We have fringes on VEGA.
- 03.05 We are co-phased on W2(B1)-S1(B2). **Offsets: CLIMB-B1: 7.40 mm, CLIMB-B2: 4.47 mm.**

Programme: V01 (Exoplanet's hosts), PI: R.Ligi

- 03.07 Going to HD 206540 the CAL1 for HD209458.
- 03.22 We are having problems to find fringes on CLIMB. Chris is trying to find fringes on a bright nearby star.
- 03.43 We were not able to find fringes on CLIMB. The flux is too low, probably because the seeing deteriorated slightly. $r_0 \leq 10$ cm now.
- 03.45 Abandoning the program.

Programme: V66 (Be stars), PI: A. Meilland

- 03.54 **Configuration: S1(B2), S2(B3).**
- 03.55 Targeting HD4180 = α Cas.
- 04.02 The flux on S2-B3 is still 2x lower than flux on S1-B2. There is a cutoff on the on S2-B3 spectrum. It may be difficult to observe fainter stars with this baseline.
- 04.13 Chris adjusted the pupils on CHARA and the flux S2-B3 increased slightly.
- 04.17 Recording [HD4180 HD4180S1S2.2015.11.01.03.50](#), 656.2 nm, 40 blocks, fringe peak clearly visible (SNR ≥ 24), seeing ≤ 12 cm, **S2 offset 2090 μ m, offsets today for S1(B2)-S2(B3): CLIMB-B1 6.65 mm, CLIMB-B2 4.47 mm.** Lost fringes on CLIMB on 39-40th block.
- 04.44 Finished recording, moving to HD5394 = γ Cas.
- 04.51 Recording [HD5394 HD5394S1S2.2015.11.01.04.44](#), 656.2 nm, 40 blocks, fringe peak clearly visible (SNR ≤ 18), seeing ≤ 10 cm, **S2 offset 2270 μ m. LOST fringes on CLIMB at block 27, star tracking problem on S2.** Stopping at 31 blocks.
- 05.05 Moving to HD 6811 = ϕ And.

- 05.07 Recording [HD6811 HD6811S1S2.2015.11.01.05.07](#), 656.2 nm, 40 blocks, fringe peak clear visible ($\text{SNR} \leq 10$), seeing ≤ 9 cm, $S2$ offset 1950 μm . CLIMB lost fringes on blocks 1-2, CLIMB lost fringes blocks 6-10, CLIMB lost fringes blocks 34-35.
- 05.27 Finished recording.
- 05.28 Moving to another program now.

Programme: V45 (Pleiades), PI: F.Millour

- 05.29 Configuration: $W2(B1)$, $S1(B2)$, $S2(B3)$
- 05.31 Moving to CAL1 HD23288 of (HD23630, HD23862).
- 05.45 Centring of $W2$ was rather difficult.
- 06.07 The conditions are deteriorating. We were not able to find fringes on CLIMB for other baseline than $S1S2$. We will try the brighter calibrator.
- 06.12 Moving on to CAL2 HD23338 of (HD23630, HD23862).
- 06.13 Fringes on all baselines for CLIMB, but rather unstable.
- 06.17 We have fringes for $S1S2$ and $W2S1$ on VEGA.
- 06.28 Recording [HD23338 PLEIONEAL2S2S1W2.2015.11.01.06.26](#), 656.2 nm, 20 blocks, we see two weak fringe peaks, $\text{SNR} (\leq 3, \leq 6)$, seeing ≤ 6 cm, $S2$ offset 1720 μm , $W2$ offset -1200 μm .
- 06.38 Finished recording, moving on to HD23630 = Alcyone.
- 06.46 Recording [HD23630 ALCYONES2S1W2.2015.11.01.06.38](#), 656.2 nm, 40 blocks, we see only one peak, $\text{SNR} (\leq 7, \leq 1)$, seeing ≤ 7 cm, $S2$ offset 1660 μm , $W2$ offset -1020 μm .
- 07.03 Recording is finished. Moving on to CAL1 HD23288 of (HD23630, HD23862) (last try on this calibrator).
- 07.09 Recording [HD23288 ALCYONECAL1S2S1W2.2015.11.01.07.05](#), 656.2 nm, 20 blocks, we see two fringe peaks, $\text{SNR} (\leq 3, \leq 6)$, seeing ≤ 7 cm, $S2$ offset 520 μm , $W2$ offset -1140 μm .
- 07.18 Recording is finished. Moving on to HD23862 = Pleione.
- 07.20 Recording [HD23862 PLEIONES2S1W2.2015.11.01.07.19](#), 656.2 nm, 40 blocks, we see two fringe peaks, $\text{SNR} (\leq 4, \leq 9)$, seeing ≤ 9 cm, $S2$ offset 1480 μm , $W2$ offset -1070 μm .
- 07.39 Moving on to CAL2 HD23338 of (HD23630, HD23862).
- 07.49 Recording [HD23338 ALCYONECAL2S2S1W2.2015.11.01.07.40](#), 656.2 nm, 20 blocks, we see two weak fringe peaks, $\text{SNR} (\leq 3, \leq 7)$, seeing ≤ 10 cm, $S2$ offset 1250 μm , $W2$ offset -1240 μm .
- 07.59 Finished recording, moving on to HD23630 = Alcyone.
- 08.05 Recording [HD23630 ALCYONES2S1W2.2015.11.01.07.59](#), 656.2 nm, 40 blocks, we see only one peak, $\text{SNR} (\leq 7, \leq 1)$, seeing ≤ 8 cm, $S2$ offset 1140 μm , $W2$ offset -1200 μm .
- 08.22 Finished recording. Moving on to CAL1 HD23288 of (HD23630, HD23862).
- 08.28 Recording [HD23288 ALCYONECAL1S2S1W2.2015.11.01.08.22](#), 656.2 nm, 20 blocks, we see two fringe peaks, $\text{SNR} (\leq 4, \leq 7)$, seeing ≤ 6 cm, $S2$ offset 930 μm , $W2$ offset -1200 μm .
- 08.38 Finished recording. Moving on to HD23862 = Pleione.
- 08.44 Recording [HD23862 PLEIONES2S1W2.2015.11.01.08.38](#), 656.2 nm, 40 blocks, we see two fringe peaks, $\text{SNR} (\leq 4, \leq 6)$, seeing ≤ 8 cm, $S2$ offset 860 μm , $W2$ offset -1240 μm . CLIMB gtk crashed on block 11, fringes were not lost though.
- 09.00 Moving on to CAL2 HD23338 of (HD23630, HD23862).
- 09.04 Recording [ALCYONECAL2S2S1W2.2015.11.01.09.00](#), 656.2 nm, 20 blocks, we see two weak fringe peaks, $\text{SNR} (\leq 4, \leq 6)$, seeing ≤ 8 cm, $S2$ offset 700 μm , $W2$ offset -1240 μm .
- 09.25 Finished recording. Moving to another program.

Programme: V66 (Be stars), PI: A. Meilland

- 09.26 The configuration: $S1-B1$, $S2-B2$.
- 09.27 Moving on HD4180 = σ Cas.

- 09.47 Recording [HD4180 HD4180S1S2.2015.11.01.09.26](#), 656.2 nm, 40 blocks, fringe peak clearly visible ($\text{SNR} \leq 18$), seeing ≤ 8 cm, [S2 offset 2090 um](#), [offsets today for S1\(B2\)-S2\(B3\): CLIMB-B1 7.435 mm, CLIMB-B2 4.49 mm](#). Lost fringes on blocks 21-23.
- 10.05 Finished recording. Moving to HD 6811 = ϕ And.
- 11.08 Recording [HD6811 HD6811S1S2.2015.11.01.10.05](#), 656.2 nm, 40 blocks, fringe peak clearly visible ($\text{SNR} \leq 20$), seeing ≤ 7 cm, [S2 offset 1180 um](#). We could not see fringe tracking up to block 7.
- 10.25 Recording stop. Going back to programme V45. Unfortunately, we were not able to get the second point on γ Cas. Sorry.

Programme: V45 (Pleiades), PI: F.Millour

- 10.27 Configuration: [W2\(B1\), S1\(B2\), S2\(B3\)](#)
- 10.28 Moving on to CAL2 HD23338 of (HD23630, HD23862).
- 10.36 We are not sure if we can adjust the pupil for W2-B1. The mirror does not seem to respond to our attempts to move it. The same of course applies to the first row of V45 observations. The flux on this beam is lower ofc.
- 11.07 Recording [HD23338 ALCYONECAL2S2S1W2.2015.11.01.10.30](#), 656.2 nm, 20 blocks, we see two fringe peaks, $\text{SNR} (\leq 4, \leq 6)$, seeing ≤ 8 cm, [S2 offset 540 um](#), [W2 offset -880 um](#). First block is wrong, one shutter was closed.
- 11.18 Finished recording, moving on to HD23630 = Alcyone.
- 11.27 Recording [HD23630 ALCYONES2S1W2.2015.11.01.11.18](#), 656.2 nm, 40 blocks, we see one peak, maybe a very weak second peak or maybe we are hallucinating, $\text{SNR} (\leq 6, \leq 2)$, seeing ≤ 7 cm, [S2 offset 500 um](#), [W2 offset -750 um](#).
- 11.43 Targeting CAL1 HD23288 of (HD23630, HD23862).
- 11.53 Recording [HD23288 ALCYONECAL1S2S1W2.2015.11.01.11.43](#), 656.2 nm, 20 blocks, we see two fringe peaks, but S1S2 is very weak, $\text{SNR} (\leq 3, \leq 5)$, seeing ≤ 7 cm, [S2 offset 370 um](#), [W2 offset -750 um](#).
- 12.00 Finished recording. Targeting Moving on to HD23862 = Pleione.
- 12.11 Recording [HD23862 PLEIONES2S1W2.2015.11.01.12.00](#), 656.2 nm, 40 blocks, we see two weak fringe peaks, S1S2 is very weak, $\text{SNR} (\leq 3, \leq 4)$, seeing ≤ 6 cm, [S2 offset 320 um](#), [W2 offset -650 um](#).
- 12.30 Moving on to CAL2 HD23338 of (HD23630, HD23862). The seeing is getting worse.
- 12.38 Recording [HD23338 ALCYONECAL2S2S1W2.2015.11.01.12.30](#), 656.2 nm, 20 blocks, we see two fringe peaks, $\text{SNR} (\leq 4, \leq 4)$, seeing ≤ 6 cm, [S2 offset 140 um](#), [W2 offset -760 um](#). It was needed to adjust slightly the offset CLIMB B1 7.625 mm.
- 12.45 Recording finished.
- 12.52 We had to restart VEGAICS due to an issue with the density filters during the acquisition of a spectral comparison.
- 12.59 The scientific programme is done. We have not forgotten about the spectral calibration. Now we we'll perform some test in attempt do deal with the issues, which arose during the observational run.

End of the observation:

- 13.02 W2 was put on B3 to see if its there is still a cut-off in its spectrum. Yes, it is, so there is a problem with the beam.
- 13.50 The reason for the issue was that we moved the slit with Denis Mourard (we wanted to adjust the spectrum, which seemed to be too high on detector), so we have moved the slit half-way back to its original position.
- 13.57 Recording spectral calibration [D.R2656.2015.11.01.13.55](#). There is only one for the whole night.
- 14.05 Verifying the data.
- 14.00 It's done for today. Bonne nuit.

Time is in UT+00.00, blue.. science target, red.. calibrator, green.. spectral calibration, gold.. additional information.