

# 2019-10-10 VEGA observation

Norm, Fred, Robert

Arrival at UT1:30. Good sky conditions. High winds are in forecast, with a red flag and high wind warning starting 3am local time. There is even a possibility of a power cut.

## V65, Mourard S2P1B1 – W2P5B2-ref – W1POP3B3 (offset +150, -300)

UT01:40: LABAO star HD181276. Taking flats etc.

UT02:05: Aligning NIRO and VEGA. Seeing around 8 cm.

UT02:17: VEGA and CLIMB aligned. To the check star HD192696.

UT02:30: Fringes found on CLIMB, offsets: S2 = -930 um, W1 = -2360 um. BC1 offset: CLIMB\_B1 = 7.47, CLIMB\_B2 = 4.79. To cal1.

UT02:42: Recording 30 blocks on cal1: [HD201834.2019.10.10.02.43](#). CLIMB tracking doesn't look that great. R0 ~7-8 cm. CLIMB offset: S2 = -1160 um, W1 = -2525 um.

UT02:58: Recording 30 blocks on target: [HD197770.2019.10.10.02.59](#). CLIMB tracking a bit jumpy. R0 ~7-8 cm. First two peaks (S2W2, W1W2) are there on VEGA. Third peak (S2W1) really faint.

UT03:20: Norm realigning CLIMB. Fringes found. Recording 30 blocks on cal2: [HD183534.2019.10.10.03.26](#). R0 ~8-9 cm. CLIMB tracking seems better, fringes stronger. W1W2 fringe surprisingly weak on VEGA though – bad calibrator?

UT03:40: Recording 30 blocks on target: [HD197770.2019.10.10.03.43](#). CLIMB tracking a bit jumpy. R0 ~8-9 cm. W1W2 and S2W2 peaks are there on VEGA. S2W1 not.

UT04:05: Recording 30 blocks on cal1: [HD201834.2019.10.10.04.06](#). CLIMB tracking still a bit jumpy. R0 ~7-8 cm.

UT04:15: Recording 30 blocks on target: [HD197770.2019.10.10.04.16](#). CLIMB tracking a bit jumpy. R0 ~7-8 cm. The first 2 peaks are there on VEGA. CLIMB offset: S2 = -570 um, W1 = -2070 um.

UT04:40: Recording 30 blocks on cal2: [HD183534.2019.10.10.04.40](#). R0 ~8-10 cm. CLIMB tracking jumpy, fringes weak. This calibrator really difficult again. Norm is checking NIRO alignment – it was pretty close.

UT04:57: To the target. Hard to find fringes. Fringes found. CLIMB tracking still jumpy, fringes weak. Recording 30 blocks: [HD197770.2019.10.10.05.08](#). CLIMB offset: S2 = -570 um, W1 = -2070 um. R0 ~7-8 cm.

UT05:22: Recording 30 blocks on cal1: [HD201834.2019.10.10.05.24](#). CLIMB tracking still a bit jumpy. R0 ~7-9 cm. CLIMB offset: S2 = -290 um, W1 = -1830 um.

UT05:38: Recording 30 blocks on target: [HD197770.2019.10.10.05.40](#). CLIMB tracking still jumpy. R0 ~7 cm. The first 2 peaks are there on VEGA. CLIMB offset: S2 = -120 um, W1 = -1810 um.

UT05:54: Recording 30 blocks on cal1: [HD201834.2019.10.10.05.58](#). CLIMB tracking still jumpy. R0 ~6-7 cm. CLIMB offset: S2 = -120 um, W1 = -1720 um.

UT06:12: Recording 30 blocks on target: [HD197770.2019.10.10.06.14](#). CLIMB tracking still jumpy. R0 ~7 cm. Ran out of delay on W1 – scans ~21 – 27 bad (only know roughly when it started). Adding 7 blocks. Only W1W2 fringe on VEGA, even that one faint. Fred: 'ok that's good. Modulation is there!'. CLIMB offset: S2 = -10 um, W1 = -1730 um.

UT06:30: Recording 30 blocks on cal1: [HD201834.2019.10.10.06.35](#). CLIMB tracking still jumpy. R0 ~5 cm. CLIMB offset: S2 = -120 um, W1 = -1720 um.

Spectral calibration [D\\_CMR720.2019.10.10.06.49](#)

**FINISHED C1-T-C2-T-C1-T-C2-T-C1-T-C1-T-C1 bracket on the target HD 19770**

### [V01, Ligi S1P1B2 – W1P5B3-ref](#) (offset +150)

UT06:50: LABAO star HD196867. Taking flats etc.

UT07:00: Aligning NIRO and VEGA. Seeing around 7 cm.

UT07:07: Cophasing VEGA. VEGA cophased (hopefully).

UT07:15: We are locked on cal1. CLIMB offset: S1 = -1660 um. To cal1. There is nothing on VEGA.

UT07:30: Seeing back to ~9 cm, but the wind seems to be slowly picking up. Fringes very jumpy on CLIMB. Trying with 250 Hz readout on CLIMB.

UT07:50: No fringes on VEGA, we are trying again on check. Fringes are probably there but it takes 5 minutes to see something. We give up.

### [V38, Salsi S2P4B1 – W2P5B2-ref](#) (offset +150)

UT08:10: LABAO star HD27697. Taking flats etc.

UT08:30: CLIMB and VEGA aligned, now on check/target star cophasing.

UT08:35: We are locked on cal1. CLIMB offset: S2 = -1880 um. BC1 offset: CLIMB\_B1 = 7.47. Recording 20 blocks on cal1: [HD28226.2019.10.10.08.38](#). CLIMB tracking pretty bad. Wind seems to be picking up. R0 ~6-7 cm.

UT08:48: Recording 20 blocks on target: [HD27962.2019.10.10.08.49](#). CLIMB tracking is better now. R0 ~7-8 cm. Clear peak on VEGA. CLIMB offset: S2 = -1800 um.

UT08:59: Recording 20 blocks on cal2: [HD27459.2019.10.10.09.01](#). CLIMB tracking a little jumpy but good overall. R0 ~7-8 cm. Clear peak on VEGA. CLIMB offset: S2 = -1730 um.

UT09:10: Wind is now shaking the door of the control room. Gust to 25 km/h just now. Recording 20 blocks on target: **HD27962.2019.10.10.09.12**. CLIMB tracking reasonably good. R0 ~6-7 cm. Clear peak on VEGA. CLIMB offset: S2 = -1650 um.

UT09:23: Recording 20 blocks on cal1: **HD28226.2019.10.10.09.24**. CLIMB tracking was reasonably good but got pretty bad towards the end. R0 ~7 cm. Clear peak on VEGA. CLIMB offset: S2 = -1560 um.

**FINISHED C1-T-C2-T-C1 bracket on the target HD 19770**

UT09:35: Winds are now reaching dangerous levels and we have to close up :(

Spectral calibration **D\_CMR720.2019.10.10.11.19**