

## Log CHARA/VEGA 2020-06-15

Observers : Fred, Orlagh (VEGA), Chris (Mt Wilson)

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**Summary :** Overall a night with technical/alignment issues (aligning S1, losing spot on Niro, sometimes Vega periscope not moving, connection issues towards the end of night ~ **4 hours**), but sky conditions were good.

- V01 : 1 X S1W1 (not excellent)
  - V70 : 3.5 X E1E2 (no Climb tracking for the last two)
  - V70 : 1 X E1E2 Densite 0.3
  - 2 spectral calibrations
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Email from Judit @ 00.30 :

I checked the VEGA periscope, because of a report of difficulty last time. I moved it up/down several times using the gui, there was no problem with it, only sometimes the response was a lot slower compared to the trial just a few seconds before.

The 13% TT splitters are now in place, mainly to increase transmission to VEGA and also to avoid the polarization problem with the 50% TT splitters. The tiptilt Zaber mirrors are also aligned, so lab TT can be checked, if necessary.

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**UTC TIME :**  
**03:00** Set-up

**S1 Pop 4 B2 – W1 Pop 4 B3 (W1-ref)**  
**V01 (R. Ligi) – HD133112 (HR5599)**

**Target = HD133112**

**Cal1 = HD132953**

**Cal2 = HD154445**

**Align = HD132052** (low V2 so use different star for check)

**Check = HD129956**

**03:35** : Aligning HD 132052. Having difficulties finding fringes, and for adjusting S1.

**04:15** : Aligned. Chris : having difficulties with deformable mirror and autoalign, S1 has been problematic, time on Niro clock seems to keep failing. Fringes eventually found but « horrible »

**05:00** : Check Star HD129956. Fringes, but VEGA misaligned. Realignment needed.

**05:30** : Recording 30 blocks on CAL1 HD132953. We see fringes on VEGA, but not good, tracking not great either. **HD132953.2020.07.15.05.46**

S1 : -2100 micron, climb-B2 : 4.40 mm

**06:00** : Recording 40 blocks on target HD133112 : **HD133112.2020.07.15.06.06** S1 : -1960 micron. Tracking good. but we also see small fringes on VEGA. Lost them around block 35. Adding 4 blocks.

**06:25** : Slew to CAL2 HD154445. **HD154445.2020.07.15.06.40** 30 blocks. S1 -2390, Climb-B2 4.20 mm.

**D\_CMR720.2020.07.15.06.56.** Spectral calibration @ 720 nm

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**E1 Pop 1 B1 – E2 Pop 2 B2 (B2-ref)**  
**V70 (R. Klement) – HD193237 (P Cygni)**

**Target = HD193237 (P Cygni)**

**Cal1 = HD191243**

**Cal2 = HD197392**

**Align = Target**

**Check = Target**

**06:50:** Slew to P Cygni

**07:20:** **HD193237.2020.07.15.07.20** E1:3000 micron; Climb B1 602 mm B2 490 mm. 20 blocks

**07:30** CAL1 HD191243. **HD191243.2020.07.15.07.51** E1: 3200 micron. Nice tracking but took time to find fringes on Climb. 20 blocks

08:00: Target **HD193237.2020.07.15.08.11** E1: 3190 micron Nice tracking. 20 blocks

08:20: Target **HD193237.2020.07.15.08.22** E1: 3200 micron Density = 0.3.

We aimed to do photometry only, but we do have fringes of course. Unfortunately we were very close to transit (my bad!) so we lost some flux, but it does not seem to be significant. However, we decided against doing density = 0.6 because we were at the transit time.

Decide to go to CAL2. But we lost spot on Niro. In the end Chris had to go to the lab. We could not resolve the problem. We decide to observe alone with VEGA (**no climb tracking**)

**From here on there is no CLIMB tracking.**

10:20 : CAL2 HD197392. **HD197392.2020.07.15.10.21** E1: 2790 micron. No tracking on CLIMB, only with VEGA.

10:50: Target **HD193237.2020.07.15.10.56** E1: 2620 micron, 30 blocks. No climb tracking.

11:10 CAL1 HD191243. **HD191243.2020.07.15.11.19** E1: 2620 micron. No climb tracking. 30 blocks.

VEGA connection very slow, then blocked ... reset the connection on this side eventually.

12:00: Target **HD193237.2020.07.15.12.11** E1: 2600 micron, 20 blocks. No climb tracking.

12:21 : CAL2 HD197392. **HD197392.2020.07.15.12.25** E1: 2540 micron. No climb tracking. Weak fringes from block 15 (it is daytime nearly!)

**D\_CM656.2020.07.15.12.35** Spectral calibration @ 656 nm

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