UT 2020-03-06, Olli, Fred, Denis

AO Engineering at the beginning of the night

V38/Salsi E1P1B1-E2P2B2-W2P5B3

- UT4h30 we start on HD11415, target as AO and check. Tests of new software on CD. Clouds. The global gui for AOs on the remote facility being not yet ready, we use the labaogtk –D1000 and wfsgtk –D1000 functions to display the WFS guis. Mountain team is testing new functionalities of continuous alignment during slews. So more delays in engineering. This first target is now OFF and we consider now the second HD58142. HD76644 as AO star at UT5h43. After aligning NIRO but E1 LABAO quite Off and no light on VEGA.
- UT6h08: Check star (=target=HD58142) Full AO on E1/E2, TT on W2. Recording at 6h35. **HD58142.2020.03.06.06.35** E1=+780 E2=-850; BC1=6.46, B2=5.31. Third peak seen on VEGA, nice tracking by CLIMB. Full AO and auto beacon. By the way W2 has no DM and then the blue beacon goes to the tel WFS and perturbate the tt! So W2 should only be used in flat mode for LABAO.
- UT6h45: cal2=HDHD56963 but troubleshooting with E1 alignment and pupil vignetting. No longer delay then. We go to cal1=HD60652. But strong clouds are coming now. No possibilities also for HD114330.
- **D_CMR720.2020.03.06.08.58**

V67/Creevey E2P2B2-W2P5B3

- UT8h55 we slew to HD82741 the AO star for alignment and then to HD85795 as check star. The sky is now almost clear.
- target=HD89221, cal1=HD89904, cal2=HD95934
- UT9h20 continuation of alignment on AO star as many issues occur with huge motion of the red beacon auto align. NIRO and VEGA alignment.
- UT9h30 slew to the check HD85795 for fringes. Nice alignment on the WFSs as well as for the VEGA pupils. E2=-1000. BC1=6.46, BC2=5.09;
- UT09h42: cal1 **HD89904.2020.03.06.09.46**, E2=-1300. Correct tracking on CLIMB, nice peak on VEGA. AO on E2 + dichro tracking with the beacon. TT only on W2.
- UT9h55: target now. **HD89221.2020.03.06.09.58**. E2=-1130. Good tracking and nice fringes on VEGA. 30 blocks for the target.
- UT10h11: cal2 now. **HD95934.2020.03.06.10.20**, E2=-1200. Nice tracking, good fringes on VEGA. 20 blocks.
- UT10h29: target. **HD89221.2020.03.06.10.32**. E2=-1100. Really nice fringes on CLIMB and VEGA. 30 blocks.
- UT10h48: cal1. **HD89904.2020.03.06.10.51**, E2=-1180. Tracking ok on CLIMB but fringes quite faint on VEGA. Again some thin clouds.
- UT11h00 target again. **HD89221.2020.03.06.11.03**. E2=-1000. Nice sequence. Well tracked.
- UT11h16: cal2 to close. **HD95934.2020.03.06.11.20**. E2=-1160. Tracking more hazardous on CLIMB but fringes ok on VEGA.
- **D_CMR720.2020.03.06.11.30**

V38/Salsi S2P5B2 - E2P1B2 - W2P5B3 (ref)

- target=HD149438, cal1=HD148605, cal2=HD146624, AO=HD159876, check=HD156928

- UT11h40: slew to AO star for settings and alignment. Slew to the check at 11h56. Fringes at S2=-320, E2=-2220.
- UT12h15: goto cal1. HD148605. **HD148605.2020.03.06.12.30**, S2=-700, E2=-2300. BC1=7.42, BC2=5.28. Hard time to find them and record. Shutter S2 closed at blocks 11&12. Fringes E2W2 almost not seen on CLIMB but great on VEGA. And reverse situation for E2S2. Poor tracking. Suspicious calibrator maybe?
- UT12h39: target. But we identified some drops in flux which are clearly related to issues with alignment off because of mixing stellar flux and beacon on the LABAO WFS. It means that the first calibrator is probably unusable. Change of REF-POS to improve the delay. S2=-760, E2=-2330. **HD149438.2020.03.06.12.53**. 3 excellent peaks now. So we really need a good calibrator after that. S2 beacon is probably not very good on this sequence, S2 pupil is vignetted. Very good tracking by CLIMB.
- UT13h01: goto cal2 now, with a new beacon alignment. **HD146624.2020.03.06.13.15**, S2=-780, E2=-2270. NIRO alignment. Nice fringes, well tracked and nice peaks on VEGA hopefully. Clouds at block 10. back at 14. S2 fringes not seen after that. The first 10 blocks are probably usable.
- UT13h25. We stay on the same cal. With new alignment and NIRO. S2=-770, E2=-2280. **HD146624.2020.03.06.13.36**. As said by Olli: "Yes, when the alignment is good the fringes are really good, proving the system works". And " It's just about fine tuning it all, especially with Vega, and figuring out what will provide the most consistent results between cals and targets - individually "tailored" settings for each star or for each bracket.". Nice sequence.
- **D_CMR720.2020.03.06.13.47**