

20190707

CESAR Observations

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CHARA: Olli

- 3h45: beta Dra, HD159181. Alignment with VEGA. Then installation of the tip/tilt and small adjustment to have the white source again on the reference position. Injection ok so optimisation is possible. Back on sky with CESAR on S2+AO. Light ok in the fiber, we can start recording and optimizing.
- Dark 200Hz, gain 1000, File 061214. Tip/tilt Loop closed with gain=0.5 and apparent stabilisation of the injection.
- Andor record TTgain=0.5 files 061525 to 061613.
- Andor record TTgain=0.3 files 061718 to 061806
- Andor record TTgain=0.1 files 061828 to 061916
- Andor record TTgain=0.7 files 062025 to 062113
- Andor record noTT files 062323 to 062410
- Andor record noTT noAO 062455 to 062543
- The improvement is not very impressive, no clear influence of the gain.
- After realignment of the scope, new files AO/noTT 070256 to 070343
- After analysing these files it appears that we have not the correct reference position after the reinstallation of the TT mirror. After fixing this we record again
- TTgain=0.3 files 073050 to 073138
- TTgain=0.5 files 073207 to 073254
- TTgain=0.1 files 073333 to 073416
- TTgain=0 files 073606 to 073653 (image centered with TT and tt loop stopped after a few seconds)
- TTgain=0, AO-OFF (same procedure for centering) files 073748 to 033836.
- After processing images we confirm an important aberration: long exposure image is clearly elongated. New record with LABAO in close loop
- TELAO and LABAO close loop, noTT: Files 080334 to 080417
- Lot of clouds now over Mt Wilson. We go to Vega. Apparently LABAO in close loop gives now a much better long exposure image. So we record again the role of TT in these conditions (Vega, AOs in close loop)
- LABAO+TELAO On, TTgain0.3, 081729 to 081816
- LABAO+TELAO On, noTT, 081833 to 081921
- New dark: 082006
- The results seem to indicate that we are not centering the image on the centre of the fibres. So an optimization of the injection is necessary. Philippe developed a fiber explorer code on the basis of the tip/tilt code. The result looks pretty like the MIRCx fiber explorer. However the AO alignment was almost completely off (high speed on AZ for the scopes at the time of this). So a realignment is necessary and we have wait too long.
- REFERENCE POSITION USED during the night: 58.18 – 48.45
- After the fiber explorer we change the reference position to 59.68-48.45
- Recording AOs + TTgain=0.3 files 103732 to 103820

- Recording AOs, noTT (last know position) files 103843 to 103930
- Recording noTT, no TELAO, LABAO on. files 104016 to 104103
- New dark 104325
- UT09h30: we decide to stop the CESAR operations, the seeing is not enough. The fine clouds are always present for the moment.

VEGA Observations

- Clouds are covering about 90% of the sky. Standby and wait for possible improvement in the cloud cover. We try on V70, Klement, S1S2
- 09h50: Check star HD194093 for target HD190603. . fringes found on CLIMB and cophased on VEGA.
- 10h20: cal1 HD191243. Fringes ok on CLIMB. Flux is low on VEGA but fringes rapidly seen. Recording [HD191243.2019.07.07.10.28](#). r0 around 9cm.
- 10h35 [HD190603.2019.07.07.10.39](#). Offset 1550 μ m, BC1=7.99. Nice tracking on CLIMB and good fringes on VEGA. 40 blocks for differential measurements.
- 10h57: Cal2 HD186568. [HD186568.2019.07.07.10.59](#). r0=9cm. Nice data on this star.
- 11h08. New cal and star
- Cal1=HD202240. [HD202240.2019.07.07.11.11](#). r0 stable around 9cm.
- Target=HD204172. But clouds again at that time. Finally recording [HD204172.2019.07.07.11.27](#) but low flux on this star... 40 blocks. But recording aborted. TipTilt can't lock the star. New try [HD204172.2019.07.7.11.43](#). Fringes ok no VEGA but flux not very high. Clouds again at blocks20 but Olli increased the exposure time for the TT. Fringes ok for the whole sequence but low flux.
- [D_CMR656.2019.07.07.12.01](#)