

Checklist: <HiFI+ operations>

<GRE-HIFI-AIP-CL-0004>

Recommended settings for science data (Suffix: _sd):

- HiFI+1: G-band & blue cont. filters. Recommended max frame rate is 49 Hz. Counts between 40000 and 60000 are optimal. Cameras saturate at 64000 counts (avoid saturation!).
- HiFI+2: H-alpha channel. Always use the same exposure times for both cameras (required by MOMFBD restoration). Cameras saturate at 4000 counts. The frame rate depends on the exposure time. Typically 100 Hz.
- HiFI+3: Ca II H & TiO filters. Cameras saturate at 4000 counts. The frame rate depends on the exposure time. Typically 100 Hz.
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Needed calibration data (necessary for the reduction pipeline “sTools”)

1. flat field (Suffix: _ff)

(Taken at disk center; watch out for solar structures such as pores, sunspots, etc.)
Telescope moving speed as fast as possible (100”). Big radius 100”.
Images: 2000 Loops: 1 Rate: 10 Hz

➔ Defocus telescope: Move M2 up to defocus telescope (plus (+) 1.0 mm).

2. flat field defocused (Suffix: _df)

Images: 500 Loops: 1 Rate: 10 Hz

➔ Stop flat-field movement

3. target defocused (Suffix: _tg)

Images: 100 Loops: 1 Rate: max possible Hz AO locked

4. pinholes defocused (Suffix: small (_ph) and large (_pl))

Images: 100 Loops: 1 Rate: max possible Hz AO locked

5. pinhole grid (Suffix: _pg)

Images: 100 Loops: 1 Rate: max possible Hz AO locked (might require fewer modes to lock: ~40).
Increase light level of AO to max

➔ Focus telescope: Move back M2 to the original value (minus (–) 1.0 mm and reset step width).

6. dark (Suffix: _dk)

Exposure time: same as observations and same as flat fields (repeat darks for all used exposure times). #
Images: 500 Loops: 1 Rate: max possible Hz

Warnings/Notes

Suffixes are mandatory since they are used in the data reduction pipeline „sTools“.

Change Log				
Vers.	Date	Author	Description of Changes	Sect./Para.
1	12.03.18	Christoph Kuckein	New Document	
2	01.05.18	C. Kuckein	Comments about data reduction, # loops, stop f-f movement, AO status, added arrows	
3	18.07.18	L. Kleint	changed 49->47 Hz (according to handwriting in observing room). Added open2 to pinhole grid.	
4	10.06.19	C. Kuckein	Minor changes (defocus telescope 1.2mm → 0.6 mm; more explanation in points 5. and 6.)	
5	21.11.21	C. Kuckein	Removed obsolete recommendations. Upgrade and adapt manual from HiFI (1 channel) → HiFI+ (3 channels)	