ObservationReport

ObservationID **0395** on 2025-08-13 22:32

all measures in mm

Main Object	**M13**				
Common Name	Hercules Globular Cluster				
Alternate Name	NGC6205				
Visual Mag. | Size	58,00	20'			
Distance	22.2 kly				
Object R.A. | DEC coord.	16h 41m 41.24s	+36° 27′ 35.5″			
Description	Globular Cluster				
Constellation	Hercules				
Other Objects	IC4617				

20250813_M13_ASI2600_0395-01WM.jpg

StarImage Link	OID0395
Telescopius Link	
Wikipedia Link	https://en.wikipedia.org/

Image Properties					
Work Status	PostProcessed		Rating	****	
Source Format	Photo		Picture Center R.A.	16 41 40.481	
Tot./Act. Frames/Pane	15	15	Picture Center DEC	+36 26 56.89	
H / V Panes	1	1	FoV measured H/V [°]	50' 5.8"	33' 28.9"
Exp. [s] / Frame	180		Above horizon [°]	64,7	
Total Time / Pane [min]	45,00	45,00	View Direction	SW 244,4°	
Camera Data	**ZWO Optical**		**ASI2600MCAir**	**ZWOASI2600**	
Camera Angle [°]	0,074		Pixel Pitch [µm]	3,761	
Gain or ISO	100		Camera Temp. °C	-10	
Observation Site					
Observation Start	2025-08-13T22:32:28	UTC+/- +1h	Observation End	2025-08-13T23:15:25	
Observation Site	DE Göttingen Weende		Site Elevation / Bortle	182	4
Province	NDS		Site Coordinates	51° 34' N, 9° 56' E	
Sky & Moon					
Sky Index | Total Clouds	5,0	16 %	Moon Rise | Set	22:21:00	12:41:00
SQM |Outside Temp. °C	0	24	Moon Age [d]	20,4	
Moon Phase |% Illum.	3rd quarter	75 %	Moon ▶Target Dist.	UNKNOWN	
Optical Configuration	**TS1624cASI2600CAA**		**TS1624cASI2600rtT239ZWOCAA**		
Lens or Scope	TSO RC 203/1624c		Focuser	M90 TS1624 Rack Pinion F	
Type Of Build	Ritchey-Chretien Reflector		Focuser Position [mm]	16,53	EAF Steps 5016
Brand	TS-Optics				
Additional Optics	M54 ZWO ASI CAA Rotator		Optical Factor	1	
Filter	-		FoL norm|actual [mm]	1624	1612
Diameter [mm]	203		DawesLimitLink	1,45 Arcsec	
Aperture / f-stop	8,00		Optical Scale ["/px]	0,478	
Other Hardware & Software					
GuideScope	ASI2600 Guide Sensor		Mount	iOptron iEQ45 Pro	
GuiderHW	ASIAIR		SessionControl	ASIAIR	
GuiderSW	ASIAIR		PostProcessingSW	PixInsight	
More ...					
Work Folder	2025\20250813_M13_0395_WEENDE				
Comment					

Remarks

1. Session Planning

Needed an easy target ot test the collimation of the TSO 203/1624.

2. Location and sky

The sky was moonlit. It was rather bright, but it was still sufficiently dark for this test.

3. Session Results

The collimation of the TSO 203/1624 Carbon is almost OK and just needs a little fine tuning. The measured back focus of the device is 244.3 mm instead of the nominal 245 mm. Instead of the nominal focal length of 1624 mm, a value of 1612 mm was measured. The measured differences are probably manufacturing tolerances.
After the measurement, the telescope underwent further collimation, and the new test is still pending.

4. Plate Solving and Camera Rotation Results

Astrometry.net rotation measurement: Up is 359.9 degrees east of north.

5. Post Processing

Image selection, registration, background enhancement and color correction were done in PixInsight.
Post-processing steps in PixInsight:
Version 01:

1. ABE: Automatic Background Extraction
2. BX: BlurXTerminator
3. NX: NoiseXTermiknator
4. PCC: Phomometric Color Correction
5. HT: Histogram Transfer for stretching
6. CT: Color Transformation to increase saturation

Version 02:

1. GX: GraXpert for gradient correction
2. BX: BlurXTerminator
3. NX: NoiseXTermiknator
4. PCC: Phomometric Color Correction
5. HT: Histogram Transfer for stretching
6. CT: Color Transformation to increase saturation

Both versions are very similar in quality and appearance.
No further image post processing was required.
No color or hue changes were made; the final image has natural colors.

6. Lessons Learned

There was no real learning experience during this session, except perhaps that gradient correction is not necessary for an object such as this (globular cluster), as the lights were already very uniform.

7. Main logfile entries

og enabled at 2025/08/13 22:16:12
2025/08/13 22:16:12 Plan M13 Start
2025/08/13 22:16:12 [Autorun|Begin] M13 Start
...
2025/08/13 22:21:42 Solve succeeded: RA:16h42m37s DEC:+36°24'37" Angle = 312.622, Star number = 59
2025/08/13 22:21:43 CAA starts rotating: current angle = 312.6, target angle = 0.0
…
2025/08/13 22:27:58 Auto focus succeeded, the focused position is 5016
2025/08/13 22:28:11 [Guide] Start Guiding
2025/08/13 22:29:25 Exposure 180.0s image 1#
…
2025/08/13 23:12:22 Exposure 180.0s image 15#
2025/08/13 23:15:47 Stop Autorun Manually
2025/08/13 23:15:49 [Guide] Stop Guiding
2025/08/13 23:15:49 [Autorun|End] Pause Autorun
2025/08/13 23:15:49 Pause Plan M13
Log disabled at 2025/08/13 23:15:49