ObservationReport

all measures in mm

Observation-ID	0293	v	02	on	2023-09-20 20:54
Rating	***			Status	PostProcessed

STARLUST.DE

Main Object	M27			
Common Name	Dumbbell Nebula			
Alternate Name	NGC6853			
Visual Mag. | Size	7,40	8.0′ × 5.6'		
Distance	1360			
Object R.A. | DEC coord.	20 00 38.520	+22 47 50.64		
Description	Planetary Nebula			
Constellation	Vulpecula			
Other Objects				

20230920_M27_ASI294_0293-02.jpg

StarImage Link	OID0293
Telescopius Link	
Wikipedia Link	https://en.wikipedia.org/wi

Image Properties				
Source Format	Photo		Optical Scale ["/px]	0,5882
Tot./Act. Frames/Pane	119	119	Picture Center R.A.	19h59m38.455s
H / V Panes	1	1	Picture Center DEC	+22°42m11.99s
Exp. [s] / Frame	10		FoV measured H/V [°]	0,674 0,459
Total Time / Pane [min]	19,83	19,83	Above horizon [°]	0
			View Direction	N

Camera Data	ZWO Optical		ASI294MC Pro	ZWOASI294
Camera Angle [°]	0		Pixel Pitch [µm]	4,630
Gain or ISO	120		Camera Temp. °C	-10

Observation Site				
Observation Start	2023-09-20T20:54:06	UTC+/- +1h	Observation End	2023-09-20T21:23:57
Observation Site	DE Göttingen MBR		Site Elevation / Bortle	182 4
Province	NDS		Site Coordinates	51° 34' N, 9° 56' E

Sky & Moon						
Sky Index | Total Clouds	3,5		%	Moon Rise | Set	13:14:00	21:36:00
SQM |Outside Temp. °C		16		Moon Age [d]	6	
Moon Phase |% Illum.	1st quarter	31	%	Moon ▶Target Dist.	UNKNOWN	

Optical Configuration	TS1624sAS294r		TS1624sASI294rT234	
Lens or Scope	TSO RC 203/1624s		Mechanical Focuser	M90 TS1624 Rack + Pinion Foc
Type Of Build	Ritchey-Chretien Reflector		Electronic Focuser	☑
Brand	TS-Optics		Focuser Position Steps	5036 [mm]
Additional Optics	-	▶	Optical Factor	1
Filter	NONE		FoL norm|actual [mm]	1624 1596,606
Diameter [mm]	203		DawesLimitLink	1,45 Arcsec
Aperture / f-stop	8,00			

Other Hardware & Software				
Guide Scope + Camera	ZWO 30/120 mini	ASI120MM	Mount	iOptron iEQ45 Pro
GuiderHW	ASIAIR		SessionControl	ASIAIR
GuiderSW	ASIAIR		PostProcessingSW	ASIAIR-LiveStacking, PS, PixInsight

More ... (see also next page)	
Work Folder	2023\20230920_0293_M27_GOE-MBR
Comment/Title	Dumbbell Nebula (M27) in Vulpecula

Remarks	Session Planning Testimage after adjusting the distance between the primary and secondary mirror of the Ritchey-Chrétien telescope. Session Results Result: now the distance is too big by 2.3mm, new mirror correction required. Post Processing Image selection, registration, background enhancement and color correction were done in PixInsight. **Culling** - NONE - **Alignment and Integration** FBPP: Fast Batch PreProcessor (Autocrop, Drizzle) **Linear Image Processing** DC: Dynamic Crop + Plate Solve GX: GraXpert BX: BlurXTerminator SPCC: Spectrometric Color Calibration NX: NoiseXTerminator **Splitting and De-Linearizing the image** SX: StarXTerminator: splitting the image intoStars and DSO objects **Stars Image:** HT: Histogram Tranfsfer CT: Curves Transformation **DSO Image:** MAS: Multiscale Adaptive Stretch FAME: Free Hand Adaptive Mask to enhance the DSO image CT: Curves Transformation **Combining Stars and DSO Image** PixMath: Add DSO and Stars into final image No further image post processing was required. No color or hue changes were made; the final image has natural colors. Image Keywords ObservationID=#0293, M27, Dumbbell Nebula, ***, Constellation=Vulpecula, 2023, SEP, Type=Photo, Site=Göttingen MBR, DE, Config=TS1624sAS294r, D=203mm, f/8.0, f=1597mm, Filter=NONE, Gain=120, Lens=TS1624s, LensName=TSO RC 203/1624s, Mount=iOptron iEQ45 Pro, n=119, OtherOptics=-, PanesH=1, PanesV=1, Status=PostProcessed, t=10s, ZWOASI294, AstroSW=ASIAIRStacking, AstroSW=PS, AstroSW=PI-PixInsight