

# ObservationReport

all measures in mm

Observation-ID

0299 v 03

on

2023-09-24 21:46

Rating

\*\*\*\*

Status

Published



<b>Main Object</b>	<b>M27</b>
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	



20230924\_M27\_ASI294\_0299-03.jpg

StarImage Link [OID0299](#)

Telescopius Link

Wikipedia Link <https://en.wikipedia.org/wi>

## Image Properties

Source Format	Photo	Optical Scale ["/px]	0,5882
Tot./Act. Frames/Pane	33                      33	Picture Center R.A.	19h59m35.876s
H / V Panes	1                              1	Picture Center DEC	+22°43m19.07s
Exp. [s] / Frame	10	FoV measured H/V [°]	0,674                      0,459
Total Time / Pane [min]	5,50                      5,50	Above horizon [°]	0
		View Direction	N

## Camera Data

ZWO Optical

ASI294MC Pro

ZWOASI294

Camera Angle [°]	266,93	Pixel Pitch [µm]	4,630
Gain or ISO	120	Camera Temp. °C	-10

## Observation Site

Observation Start	2023-09-24T21:46:38 UTC+/- +1h	Observation End	2023-09-24T21:58:53
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	1,7                      0 %	Moon Rise   Set	17:25:00                      02:12:00
SQM   Outside Temp. °C	11	Moon Age [d]	9,4
Moon Phase   % Illum.	2nd quarter                      73 %	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	<input checked="" type="checkbox"/>
Brand	TS-Optics	Focuser Position Steps	6203                      [mm]
Additional Optics	-	► Optical Factor	1
Filter	NONE	FoL norm actual [mm]	1624                      1601,89
Diameter [mm]	203	<a href="#">DawesLimitLink</a>	<a href="#">1,45 Arcsec</a>
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	PS, PixInsight

## More ... (see also next page)

Work Folder	<a href="#">2023\20230924_0299_M27_GOE-MBR</a>
Comment/Title	Dumbbell Nebula (M27) in Vulpecula

Remarks

Session Planning

Colimation test image

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 into Stars and DSO objects

**Stars Image:**

HT: Histogram Transfer

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=#0299, M27, Dumbbell Nebula, \*\*\*\*, Constellation=Vulpecula, 2023, SEP, Type=Photo, Site=Göttingen MBR, DE, Config=TS1624sAS294r, D=203mm, f/8.0, f=1602mm, Filter=NONE, Gain=120, Lens=TS1624s, LensName=TSO RC 203/1624s, Mount=iOptron iEQ45 Pro, n=33, OtherOptics=-, PanesH=1, PanesV=1, Status=Published, t=10s, ZWOASI294, AstroSW=PS, AstroSW=PI-PixInsight