

ObservationReport

ObservationID

0374

on

2025-03-21 20:31

all measures in mm



Main Object	M81						
Common Name	Bode's Galaxy						
Alternate Name	NGC3031						
Visual Mag. Size	6,77 21.6x11.2'						
Distance	12 Mly						
Object R.A. DEC coord.	09h 57m 20.72s +68° 57' 40,7"						
Description	Spiral Galaxy						
Constellation	Ursa Major						
Other Objects	<table><tr><td>M82</td><td>NGC2961</td></tr><tr><td>NGC2959</td><td>NGC2976</td></tr><tr><td>NGC3077</td><td></td></tr></table>	M82	NGC2961	NGC2959	NGC2976	NGC3077	
M82	NGC2961						
NGC2959	NGC2976						
NGC3077							



20250321_M81_ASI2600_0374-01WM.jpg

StarImage Link [M81_20250321](#)Telescopus Link [M 81](#)Wikipedia Link [Messier_81](#)

Image Properties

Work Status	Published	Rating	****
Source Format	Photo	Picture Center R.A.	9h 52' 44.839"
Tot./Act. Frames/Pane	33 31	Picture Center DEC	+68° 44' 53.38"
H / V Panes	1 1	FoV measured H/V [°]	2° 14' 38.8" 1° 29' 58.0"
Exp. [s] / Frame	180	Above horizon [°]	0
Total Time / Pane [min]	93,00 93,00	View Direction	N

Camera Data	ZWO Optical	ASI2600MCAir	ZWOASI2600
Camera Angle [°]	-39,796	Pixel Pitch [µm]	3,761
Gain or ISO	100	Camera Temp. °C	-10

Observation Site

Observation Start	2025-03-21T20:31:35 UTC+/- +1h	Observation End	2025-03-21T22:10:02
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 0 %	Moon Rise Set	02:00:00 08:40:00
Outside Temp. °C	8	Moon Age [d]	22
Moon Phase % Illum.	3rd quarter 55 %	Moon ► Target Dist.	UNKNOWN

Optical Configuration	TS600ASI2600	TS600ASI2600T275ZWOC	
Lens or Scope	TSO APO 90/600	Focuser	M90 TS600 Rack + Pinion
Type Of Build	APO Triplet Refractor	Focuser Position [mm]	39,44 EAF Steps 13597
Brand	TS-Optics	Optical Factor	1
Additional Optics	M54 ZWO ASI CAA Rotator	FoL norm actual [mm]	599 599
Filter	Optolong 2" L-eNhan	DawesLimitLink	1,74 Arcsec
Diameter [mm]	90	Optical Scale ["/px]	1,295
Aperture / f-stop	6,66		

Other Hardware & Software

GuideScope	ASI2600 Guide Sensor	Mount	ZWO AM3
GuiderHW	ASIAIR Pro	SessionControl	ASIAIR Pro
GuiderSW	ASiAir App	PostProcessingSW	PixInsight, GraXpert, BlurXTerminator, NoiseXTerminator

More ...

Work Folder	2025\20250321_M81_0374_WEENDE
Comment	
Remarks	1. Session Planning

Wanted to capture some galaxies. 2 different targets selected in Plan Mode (first near M81, second near M106) with predefined camera rotation settings to test the ZWO CAA camera rotator.

2. Location and sky

quite good

3. Session Results

Had to stop in the middle of the first capture session (at frame 31 out of planned 50) because the telescope tail with the camera collided with the mount column (targets were too close to the zenith).

4. Plate Solving and Camera Rotation Results

PixInsight plate solve results:

```
Projection ..... Gnomonic
Projection origin ..... [3120.449999 2085.017939] px -> [RA: 9 52 44.839 Dec: +
68 44 53.37]
Resolution ..... 1.294 arcsec/px
Rotation ..... -39.796 deg
Reference system ..... ICRS
Observation start time ... 2025-03-21 19:28:33 UTC
Observation end time .... 2025-03-21 21:10:00 UTC
Geodetic coordinates ..... 9 56 05 E 51 34 26 N 0 m
Focal distance ..... 599.13 mm
Pixel size ..... 3.76 um
Field of view ..... 2d 14' 38.8" x 1d 29' 58.0"
Image center ..... RA: 9 52 44.839 Dec: +68 44 53.38 ex: -0.005841 px
ey: -0.006067 px
Image bounds:
  top-left ..... RA: 9 57 13.443 Dec: +70 02 16.73 ex: -1.116277 px
ey: -1.119649 px
  top-right ..... RA: 9 38 03.253 Dec: +68 33 55.41 ex: +0.752252 px
ey: -1.769046 px
  bottom-left ..... RA: 10 07 37.604 Dec: +68 50 57.89 ex: -1.121626 px
ey: +0.017754 px
  bottom-right ..... RA: 9 48 45.665 Dec: +67 27 03.55 ex: +0.037411 px
ey: +0.017452 px
```

5. Post Processing

In PixInsight:

1. SubFrame Calibrator
2. FBPP - Fast Batch Pre Processor
3. GraXpert (outside PixInsight) for gradient correction
4. PCC - Photometric Color Correction
5. BlurXTerminator
6. NoiseXTerminator
7. CT - Curves Transformation
8. HT - Histogram Transfer for a full stretch

6. Lessons Learned

Tragets near zenith are a bad choice - better planning required

7. Main logfile entries

```
2025/03/21 20:18:59 Plan IC443 Start
2025/03/21 20:18:59 [Autorun|Begin] M81 Start
2025/03/21 20:19:02 [AutoCenter|Begin] Auto-Center 1#
...
2025/03/21 20:19:02 Mount slews to target position: RA:9h55m8s DEC:+68°37'9"
2025/03/21 20:19:49 Solve succeeded: RA:9h55m7s DEC:+68°37'5" Angle = 222.934, Star
number = 3943
2025/03/21 20:19:49 [AutoCenter|End] The target is centered
2025/03/21 20:19:49 CAA starts rotating: current angle = 222.9, target angle = 38.0
2025/03/21 20:20:13 CAA rotation completed
2025/03/21 20:20:15 Start Tracking
...
2025/03/21 20:28:14 Auto focus succeeded, the focused position is 13403
2025/03/21 20:28:14 [AutoFocus|End] Auto focus succeeded
...
2025/03/21 20:28:32 Exposure 180.0s image 1#
...
2025/03/21 22:10:02 Exposure 180.0s image 34#
2025/03/21 22:12:32 Stop Autorun Manually
2025/03/21 22:12:33 [Guide] Stop Guiding
2025/03/21 22:12:33 [Autorun|End] Pause Autorun
2025/03/21 22:12:33 Pause Plan IC443
Log disabled at 2025/03/21 22:12:33
```