

# ObservationReport

all measures in mm

ObservationID

0188

on

2023-02-08 19:33

**Object** C/2022-E3

Common Name C/2022-E3

Alternate Name (s) Comet ZTF

Visual Magnitude 5

Distance ► Object

Apparent Size

Object R.A.

Object DEC

WikiLink [https://en.wikipedia.org/wiki/C/2022\\_E3\\_\(ZTF\)](https://en.wikipedia.org/wiki/C/2022_E3_(ZTF))

20230208\_C-2022-E3\_ASI294\_0188-02WM.jpg

Link ► Picture [C/2022-E3\\_20230208](#)

Description Comet

Constellation Auriga

**Picture Data**

Work Status	Published	Quality	****
Source Format	Photo	Picture Center R.A.	04h 54m 20.535s
Tot./Act. Frames/Pane	100 85	Picture Center DEC	+33° 54' 44.278"
H / V Panes	1 1	H/V FoV [°]	1,8268 1,2434
Exp. [s] / Frame	60	Above horizon [°]	69,5°
Total Time / Pane [min]	85,00 85,00	View Direction	214,7°

**Camera Data**

<b>ZWO</b>	<b>ASI294MC-Pro</b>	<b>ZWOASI294</b>	
Camera Angle [°]	272,6	Pixel Pitch [µm]	4,63
Gain or ISO	120	Camera Temp. °C	-4

**Observation Site**

Observation Start	2023-02-08T19:33:49 UTC+/- +1h	Observation End	2023-02-08T21:27:56
Observation Site	DE Göttingen MBR	Site Elevation /Bortle	182 5
Province	NDS	Site Coordinates	51° 34' N, 9° 56' E

**Sky & Moon**

Sky Index   Total Clouds	1,7	%	Moon Rise   Set	20:16:00 09:11:00
Outside Temp. °C	-2		Moon Age [d]	18
Moon Phase  % Illum.	3rd quarter 91	%	Moon ► Target Dist.	UNKNOWN

**Optical Configuration**

<b>TS600AS294</b>	<b>TS600ASI294T252</b>		
Lens or Scope	TSO APO 90/600	Focuser	M90 TS600 Rack + Pinion
Type Of Build	APO Triplet Refractor	Focuser Position [mm]	0,00 EAF Steps 0
Brand	TS-Optics	Optical Factor	1
Additional Optics	M63 WO Rotator	FoL norm actual [mm]	599 1097,644
Filter	-	<a href="#">DawesLimitLink</a>	1,74 Arcsec
Diameter [mm]	90	Optical Scale ["/px]	1,595
Aperture / f-stop	6,66		

**Other Hardware & Software**

GuideScope	ZWO 30/120 mini	Mount	iOptron iEQ45 Pro
GuiderHW	ASiAirPro	SessionControl	ASiAirPro
GuiderSW	ASiAirPro	PostProcessingSW	PS, PixInsight

**More ...**Work Folder [2023\20230208\\_C-2022-E3\\_0188\\_GOE-MBR](#)

Comment

Remarks Comet C/2022 E3, comet aligned and erased nearly black background

**1. Session Planning**Used **SkySafari Pro** for the actual comet coordinates together with ASI AIR Pro for

GoTo and telescope guiding.

## 2. Location and sky

Unfortunately the sky conditions were only mediocre with high speed winds in the upper atmosphere and a rather bright sky resulting in much background noise. But this was the second night after many weeks of bad weather and rain. Had to quickly install and calibrate everything between sunset and before the nearly full moon rose above the horizon at 20:16h, I was still a little late before I could start the nearly 2 hours of frame capturing that only started at 19:33h local time (UCT+1).

## 3. Session Results

There was clearly too much sky brightness and a lot of background noise in the picture, absolutely no ideal conditions. Due to 1 tracking error, many satellites and planes that crossed the line of view, only 85 out of 100 original frames could be used. Further details about the image post-processing are available here and subsequent pages: [Pre-Processing Steps for Comets \(starlust.de\)](https://www.starlust.de/pre-processing-steps-for-comets)

## 4. Plate Solving and Camera Rotation Results

ASI AIR rotation measurement: not done

Astrometry.net rotation measurement: 272,6° E of N

Plate Solve result (ASI AIR): not done

## 5. Post Processing

Used PixInsight for:

- Image selection
- Automatic Weighted Batch Pre-processing for Comets
- Comet Alignment Tool
- Comet Integration with dark background using the Image Integration tool and Winsorized Sigma Clipping n very low Sigma High setting (0.8) to erase the stars
- Automatic Background Extraction
- and Full Final Stretch

and Photoshop Lightroom for some background correction and color enhancement

No color or hue changes have been applied; the final image is showing natural colors.

## 6. Lessons Learned

Should have turned off the dithering which was unnecessary for this task and only wasted time. A meridian flip after frame #26 could unfortunately not be avoided.

## 7. Main logfile entries

Log enabled at 2023/02/08 19:31:00

2023/02/08 19:31:00 [Autorun|Begin] C2022E3 Start

2023/02/08 19:31:00 Target RA:4h55m52s DEC:+33°56'51"

2023/02/08 19:31:00 Shooting 100 light frames, exposure 60.0s Bin1

2023/02/08 19:31:00 Start Tracking

2023/02/08 19:31:00 [AutoFocus|Begin] Run AF before Autorun start, exposure 2.0s Bin1, temperature -1.4°C

2023/02/08 19:31:00 Find Focus Star

2023/02/08 19:31:05 Find Focus Star: detect and calculate star size 3.1 , EAF position 14419

2023/02/08 19:31:05 Find Focus Star: finding appropriate stars star size 3.1

2023/02/08 19:31:17 Find Focus Star: detect and calculate star size 3.7 , EAF position 14469

2023/02/08 19:31:17 Calculate V-Curve

2023/02/08 19:32:48 Auto focus succeeded, the focused position is 14420

2023/02/08 19:32:49 [AutoFocus|End] Auto focus succeeded

2023/02/08 19:32:49 Exposure 60.0s image 1#

2023/02/08 19:33:49 Exposure 60.0s image 2#

2023/02/08 19:34:50 Target RA:4h55m52s DEC:+33°56'50"

2023/02/08 19:34:50 Exposure 60.0s image 3#

...  
2023/02/08 19:52:07 Exposure 60.0s image 20#  
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2023/02/08 19:58:13 Exposure 60.0s image 26#  
2023/02/08 19:59:14 Stop Tracking  
2023/02/08 19:59:14 [Meridian Flip|Begin] Wait 4min24s to Meridian Flip  
2023/02/08 20:04:58 Mount slews to target position: RA:4h55m52s DEC:+33°56'50"  
2023/02/08 20:05:02 Exposure 10.0s  
2023/02/08 20:05:13 Plate Solve  
2023/02/08 20:05:18 Solve succeeded: RA:4h55m53s DEC:+33°56'55" Angle = 86.983, Star number = 177  
2023/02/08 20:05:18 The Mount has flipped  
2023/02/08 20:05:18 [AutoCenter|End] The target is centered  
2023/02/08 20:05:18 [Guide] Calibration data Flipped  
2023/02/08 20:05:18 [Meridian Flip|End] Meridian Flip succeeded  
2023/02/08 20:05:18 Start Tracking  
2023/02/08 20:05:18 Wait for Mount Settle  
2023/02/08 20:05:23 Start Tracking  
2023/02/08 20:05:23 [AutoFocus|Begin] Run AF after Auto Meridian flipped, exposure 2.0s Bin1, temperature -3.0°C  
2023/02/08 20:05:23 Find Focus Star  
2023/02/08 20:07:17 Auto focus succeeded, the focused position is 14416  
2023/02/08 20:07:17 [AutoFocus|End] Auto focus succeeded  
2023/02/08 20:07:17 Exposure 60.0s image 27#  
...  
2023/02/08 21:02:08 Exposure 60.0s image 81#  
2023/02/08 21:02:34 Stop Autorun Manually  
2023/02/08 21:02:34 [Autorun|End] Pause Autorun  
2023/02/08 21:03:50 [Guide] Dither  
2023/02/08 21:03:50 [Guide] Dither Settle  
2023/02/08 21:04:36 [Guide] Settle Done  
2023/02/08 21:04:36 Exposure 60.0s image 81#  
2023/02/08 21:05:37 Exposure 60.0s image 82#  
2023/02/08 21:06:38 Target RA:4h55m44s DEC:+33°54'28"  
2023/02/08 21:06:38 Exposure 60.0s image 83#  
2023/02/08 21:07:39 Exposure 60.0s image 84#  
2023/02/08 21:08:40 Exposure 60.0s image 85#  
2023/02/08 21:09:41 [Guide] Dither  
2023/02/08 21:09:41 [Guide] Dither Settle  
2023/02/08 21:10:39 [Guide] Settle Done  
2023/02/08 21:10:40 Exposure 60.0s image 86#  
...  
2023/02/08 21:14:44 Exposure 60.0s image 90#  
2023/02/08 21:15:45 [Guide] Dither  
2023/02/08 21:15:45 [Guide] Dither Settle  
2023/02/08 21:16:43 [Guide] Settle Done  
2023/02/08 21:16:43 Exposure 60.0s image 91#  
...  
2023/02/08 21:20:47 Exposure 60.0s image 95#  
2023/02/08 21:21:48 [Guide] Dither  
2023/02/08 21:21:48 [Guide] Dither Settle  
2023/02/08 21:21:56 Stop Autorun Manually  
2023/02/08 21:21:56 [Autorun|End] Pause Autorun  
2023/02/08 21:22:11 [Guide] Dither  
2023/02/08 21:22:11 [Guide] Dither Settle  
2023/02/08 21:22:51 [Guide] Settle Timeout  
2023/02/08 21:22:51 Exposure 60.0s image 96#  
...  
2023/02/08 21:26:56 Exposure 60.0s image 100#  
2023/02/08 21:27:56 [Autorun|End] Finish Autorun  
Log disabled at 2023/02/08 21:27:56