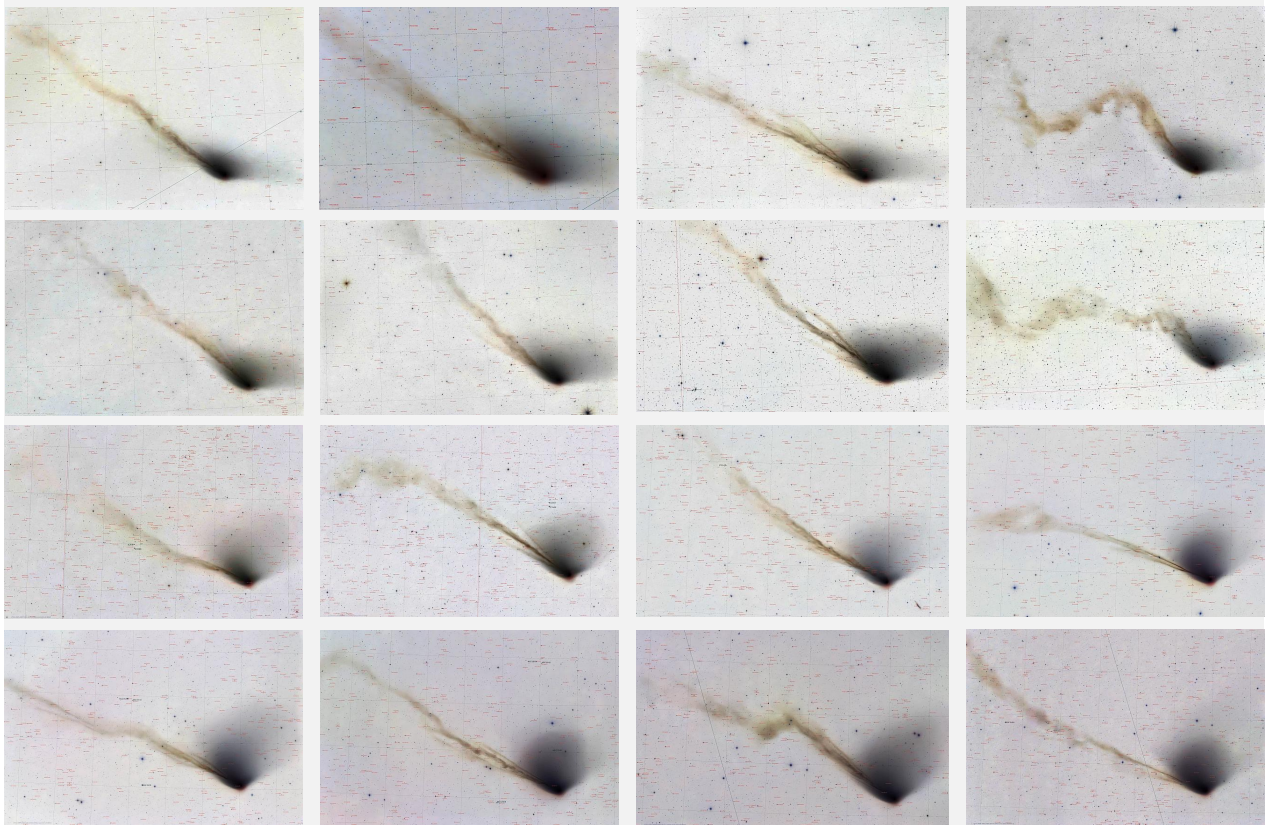


August 2024

ALPO Comet News

A Publication of the Comets Section of the
Association of Lunar and Planetary Observers

The ever changing tail of 13P/Olbers



alpo-astronomy.org
comets@alpo-astronomy.org

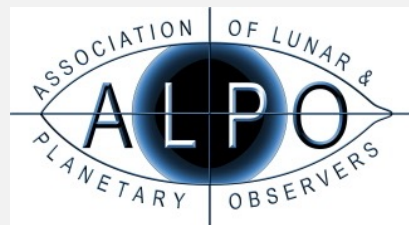


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On the Front Cover:

Last month's cover was an image of Halley-type comet 13P/Olbers by Dan Bartlett. This month's cover highlights the continued dynamic nature of Olbers' tail as well as the dedication of Dan to image the comet night after night.

The cover sequence consists of images of 13P/Olbers taken on 2024 June 30, July 1, 3, 4, 5, 6, 7, 10, 25, 26, 27, 28, 29, 30, 31, and August 1. Each image was taken from June Lake, California, with a Celestron RASA11 Schmidt telescope.

The monthly ALPO Comet News PDF can be found on the ALPO Comets Section website (in the [Comets Section Image Gallery](#)). A shorter version of this report is posted on a dedicated Cloudy Nights forum (<https://www.cloudynights.com/topic/931881-alpo-comet-news-for-august-2024/>). All are encouraged to join the discussion over at Cloudy Nights. The ALPO Comets Section welcomes all comet-related articles, observations, images, drawings, magnitude estimates, or spectra. One does not have to be a member of ALPO to submit material, though membership is appreciated.

Please send your observations to the Comets Section at < comets@alpo-astronomy.org >, Coordinator Carl Hergenrother < carl.hergenrother@alpo-astronomy.org >, and/or Acting Assistant Coordinator Michel Deconinck < michel.deconinck@alpo-astronomy.org >.

To learn more about the ALPO, please visit us @ <http://www.alpo-astronomy.org>.

Summary

This month's ALPO Comet News will be another short one. Again, other commitments are vying for my time, and only four comets are expected to be brighter than magnitude 12 this month.

Northern hemisphere observers will be able to watch two fading comets, 13P/Olbers fade from 7th to 8th magnitude and C/2023 V4 (Camarasa-Duszanowicz) from 11th to 13th. Southern hemisphere observers will be able to observe 12P/Pons-Brooks fade from 9th to 10th magnitude. Southern observers will also be able to catch C/2023 A3 (Tsuchinshan-ATLAS) brighten from 8th to 7th magnitude before losing it to the glare of twilight around mid-month.

Last month, the ALPO Comets Section received 247 images and 164 magnitude estimates of 44 comets: 12P/Pons-Brooks, 13P/Olbers, 21P/Giacobini-Zinner, 29P/Schwassmann-Wachmann, 32P/Comas Sola, 37P/Forbes, 62P/Tsuchinshan, 65P/Gunn, 89P/Russell, 125P/Spacewatch, 130P/McNaught-Hughes, 144P/Kushida, 146P/Shoemaker-LINEAR, 154P/Brewington, 208P/McMillan, 227P/Catalina-LINEAR, 236P/LINEAR, 251P/LINEAR, 253P/PANSTARRS, 299P/Catalina-PANSTARRS, 468P/Siding Spring, C/2017 K2 (PANSTARRS), C/2019 O3 (Palomar), C/2019 T4 (ATLAS), C/2019 U5 (PANSTARRS), C/2020 K1 (PANSTARRS), C/2020 V2 (ZTF), C/2021 G2 (ATLAS), C/2021 S3 (PANSTARRS), C/2021 X1 (Maury-Attard), C/2022 E2 (ATLAS), C/2022 L2 (ATLAS), C/2022 N2 (PANSTARRS), C/2022 U1 (Leonard), C/2023 A3 (Tsuchinshan-ATLAS), C/2023 C2 (ATLAS), C/2023 V4 (Camarasa-Duszanowicz), C/2023 X1 (Leonard), C/2024 A2 (ATLAS), C/2024 C4 (ATLAS), C/2024 E1 (Wierzchos), C/2024 F2 (PANSTARRS), C/2024 G1 (Wierzchos), C/2024 G3 (ATLAS), and C/2024 J1 (Wierzchos).

A big thanks to our recent contributors: Dan Bartlett, José J. Chambó, Dan Crowson, Michel Deconinck, Jose Guilherme de Souza Aguiar, Juan Jose Gonzalez Suarez, Christian Harder, Eliot Herman, Rik Hill, Michael Jäger, John Maikner, Gianluca Masi, Michael Mattiazzo, Martin Mobberley, Mike Olason, Andrew Pearce, Uwe Pilz, Chris Schur, Greg T. Shanos, Tenho Tuomi, and Christopher Wyatt.

Request for Observations

As always, the Comet Section is happy to receive all comet observations, whether textual descriptions, images, drawings, magnitude estimates, or spectra. Please send your observations via email to the Comets Section < comets@alpo-astronomy.org >, Comets Section Coordinator Carl Hergenrother < carl.hergenrother@alpo-astronomy.org >.

Photometric Corrections to Magnitude Measurements

We include lightcurves for the comets discussed in these reports and apply aperture and personal corrections to the visual observations and only personal corrections to digital observations. Though we try to keep these lightcurves up to date, observations submitted in the days before publication may not be included in the lightcurves until next month's News. All magnitude estimates are affected by many factors, including instrumental (aperture, focal length, magnification, type of optics), environmental (sky brightness due to moonlight, light pollution, twilight, aurora activity, zodiacal light, etc.), cometary (degree of condensation, coma color, strength and type of gas emission lines, coma-tail interface) and personal (sensitivity to different wavelengths, personal technique, observational biases). The first correction used here corrects for differences in aperture [Charles S. Morris, On Aperture Corrections for Comet Magnitude Estimates. Publ Astron Soc Pac 85, 470, 1973]. Visual observations are corrected to a standard aperture of 6.78 cm by 0.019 magnitudes per centimeter for reflectors and 0.066 magnitudes per centimeter for refractors. After applying the aperture correction and if a sufficient number of visual observations are submitted for a particular comet, we also determine personal corrections for each observer for each comet; for digital observations, only a personal correction is applied. A single observer submitting both visual and digital magnitude measurements may also have separate corrections for each observing method. If the magnitudes shown in the text don't match those plotted in the lightcurves, it is because of the application of these corrections.

Acknowledgments

In addition to observations submitted directly to the ALPO, we occasionally use data from other sources to augment our analysis. Therefore, we acknowledge with thanks the observations submitted directly to the ALPO and those initially submitted to the International Comet Quarterly, Minor Planet Center, and COBS Comet Observation Database. In particular, we have been using observations submitted to the COBS site by Thomas Lehmann for our analysis and would like to thank Thomas for his COBS observations. We would also like to thank the Jet Propulsion Laboratory for making their Small-Body Browser and Orbit Visualizer available and Seiichi Yoshida for his Comets for Windows programs that produced the lightcurves and orbit diagrams in these pages. Last but not least, we'd like to thank [Syuichi Nakano](#) and the Minor Planet Center for their comet orbit elements, the asteroid surveys and dedicated comet hunters for their discoveries, and all of the observers who volunteer their time to add to our knowledge of these fantastic objects.

Thank you to everyone who contributed to the ALPO Comets Section!

Clear skies!

- Carl Hergenrother

Comets Calendar

Lunar Phases (UTC)

- Aug 04 - New Moon
- Aug 12 - First Quarter Moon
- Aug 19 - Full Moon
- Aug 26 - Last Quarter Moon

Comets at Perihelion

- Aug 02 338P/McNaught [q = 2.29 au, 7.7-yr period, V ~ 17, discovered in 2008, seen at 2016 return, only a single observation at current return]
- Aug 05 146P/Shoemaker-LINEAR [q = 1.42 au, 8.1-yr period, V ~ 14, discovered in 1984, re-discovered in 2000, also seen at return in 2008, 2016, and now 2024]
- Aug 12 C/2023 R2 (PANSTARRS) [q = 0.91 au, V ~ 11, not seen since March due to low solar elongation, will remain at low solar elongations through end of year, resulting in little chance of observation when bright]
- Aug 17 30P/Reinmuth [q = 1.81 au, 7.2-yr period, V ~ 15, photographic discovery from 1928, missed at only one return since then (1942 return during World War II), this is its 13th observed return]
- Aug 23 208P/McMillian [q = 2.53 au, 8.1-yr period, V ~ 17, discovered in 2008, pre-discovery observations from 2000, also seen at 2016 and current return]
- Aug 30 C/2024 C1 (PANSTARRS) [q = 4.41 au, 34-yr period, V ~ 19-20]
- Aug 31 345P/LINEAR [q = 3.14 au, 8.1-yr period, V ~ 18-19, discovered in 2008, seen in 2016, surprisingly yet to be seen at current return]

Photo Opportunities

- Aug 1 - 13P/Olbers passes through the galaxy chain of IC 2735, 2738, 2744, and 2751 (all 14-15th mag)
- Aug 5 - 13P/Olbers passes within 5' of 13th mag galaxy NGC 4020
- Aug 6 - C/2023 V4 (Camarasa-Duszanowicz) passes within 10' of 9th and 11th mag galaxy pair NGC 4490 and 4485
- Aug 10 - C/2023 A3 (Tsuchinshan-ATLAS) passes ~7' from 13th mag galaxy IC 653
- Aug 13 - 13P/Olbers passes over 12th mag galaxy NGC 4185 and within 4' of 13th mag galaxy NGC 4196
- Aug 13 - 13P/Olbers passes within a few arc min of 13th mag galaxy NGC 4275
- Aug 16 - C/2023 V4 (Camarasa-Duszanowicz) passes within 2' of 13th mag galaxy NGC 4956
- Aug 18 - 13P/Olbers passes ~15' from 9th mag edge-on galaxy NGC 4494
- Aug 18-19 - 13P/Olbers passes ~30' from 12th mag edge-on galaxy NGC 4565
- Aug 25 - 13P/Olbers passes ~15' from 8th mag galaxy M64

Recent Magnitudes Contributed to the ALPO Comets Section

Comet Des	YYYY MM DD.DD (UT)	Mag	SC	APER	FL	POW	COMA Dia DC	TAIL LENG PA	ICQ CODE	Observer Name
479P/Elenin										
479	2024 07 04.47	C 16.1	AQ	35.0T	5a240		1		ICQ XX PEA	Andrew Pearce
468P/Siding Spring										
468	2024 07 19.32	C 19.5	BG	30.5H	4D800				ICQ XX MAI01	John Maikner
299P/Catalina-PANSTARRS										
299	2024 07 29.77	C[16.5	AQ	50.0T	6a180				ICQ XX PEA	Andrew Pearce
299	2024 07 13.81	C 15.5	AQ	50.0T	6a180	0.3			ICQ XX PEA	Andrew Pearce
299	2024 07 12.74	C 16.1	AQ	50.0T	6a180	0.6			ICQ XX PEA	Andrew Pearce
299	2024 07 08.75	C 15.8	AQ	50.0T	6a180	0.4		0.2 m125	ICQ XX PEA	Andrew Pearce
299	2024 07 07.00	C 16.2	AQ	50.0T	6a180	0.4			ICQ XX PEA	Andrew Pearce
253P/PANSTARRS										
253	2024 07 19.32	C 18.8	BG	30.5H	4D800				ICQ XX MAI01	John Maikner
251P/LINEAR										
251	2024 07 19.23	C 20.8	BG	30.5H	4H400				ICQ XX MAI01	John Maikner
236P/LINEAR										
236	2024 07 27.23	C 19.0	BG	30.5H	4C000				ICQ XX MAI01	John Maikner
236	2024 07 27.23	C 19.0	BG	30.5H	4C000				ICQ XX MAI01	John Maikner
208P/McMillan										
208	2024 07 08.33	C 19.7	BG	30.5H	4B400				ICQ XX MAI01	John Maikner
154P/Brewington										
154	2024 07 28.14	C 14.7	AQ	50.0T	6a120	0.8			ICQ XX PEA	Andrew Pearce
154	2024 07 09.46	Z 14.1	GG	5.0R	4a750	1.7			ICQ XX OLAAA	Michael Olason
146P/Shoemaker-LINEAR										
146	2024 07 31.42	Z 14.3	GG	5.0R	4a750	1.4			ICQ XX OLAAA	Michael Olason
146	2024 07 31.13	C 14.8	AQ	50.0T	6a120	0.7		1 m231	ICQ XX PEA	Andrew Pearce
146	2024 07 28.08	C 14.7	AQ	50.0T	6a180	0.7			ICQ XX PEA	Andrew Pearce
146	2024 07 27.09	C 14.7	AQ	50.0T	6a180	0.7		0.4 m223	ICQ XX PEA	Andrew Pearce
146	2024 07 19.09	C 15.2	AQ	50.0T	6a180	0.5			ICQ XX PEA	Andrew Pearce
146	2024 07 17.17	C 15.3	AQ	50.0T	6a180	0.6		0.7 m232	ICQ XX PEA	Andrew Pearce
146	2024 07 16.08	C 15.3	AQ	50.0T	6a180	0.6		0.7 m234	ICQ XX PEA	Andrew Pearce
130P/McNaught-Hughes										
130	2024 07 31.09	C 15.4	AQ	50.0T	6a180	0.7		1 m234	ICQ XX PEA	Andrew Pearce
130	2024 07 28.05	C 14.6	AQ	50.0T	6a180	0.5			ICQ XX PEA	Andrew Pearce
130	2024 07 17.05	C 15.4	AQ	50.0T	6a180	0.6		0.7 m240	ICQ XX PEA	Andrew Pearce
130	2024 07 16.07	C 15.5	AQ	50.0T	6a180	0.6		1.4 m243	ICQ XX PEA	Andrew Pearce
130	2024 07 14.05	C 15.6	AQ	50.0T	6a180	0.4		1.7 m245	ICQ XX PEA	Andrew Pearce
130	2024 07 12.06	C 15.5	AQ	50.0T	6a180	0.5		1.1 m237	ICQ XX PEA	Andrew Pearce
130	2024 07 09.06	C 15.3	AQ	50.0T	6a180	0.5		0.7 m225	ICQ XX PEA	Andrew Pearce
130	2024 07 07.06	C 15.6	AQ	50.0T	6a180	0.4		1 m240	ICQ XX PEA	Andrew Pearce
130	2024 07 02.07	C 16.0	AQ	50.0T	6a120	0.5		0.8 m237	ICQ XX PEA	Andrew Pearce
125P/Spacewatch										
125	2024 07 03.90	C 18.2	AQ	50.0T	6a240	0.3		0.5 m242	ICQ XX PEA	Andrew Pearce
89P/Russell										
89	2024 07 31.03	C 16.7	AQ	50.0T	6a240	0.5			ICQ XX PEA	Andrew Pearce
89	2024 07 27.94	C 16.2	AQ	50.0T	6a360	0.7			ICQ XX PEA	Andrew Pearce
89	2024 07 14.00	C 17.1	AQ	50.0T	6a360	0.3		0.5 m232	ICQ XX PEA	Andrew Pearce
89	2024 07 11.95	C 16.9	AQ	50.0T	6a360	0.5			ICQ XX PEA	Andrew Pearce
89	2024 07 09.95	C 16.8	AQ	50.0T	6a360	0.5			ICQ XX PEA	Andrew Pearce
89	2024 07 07.02	C 16.9	AQ	50.0T	6a360	0.5			ICQ XX PEA	Andrew Pearce
89	2024 07 05.96	C 16.8	AQ	50.0T	6a360	0.4		0.2 m208	ICQ XX PEA	Andrew Pearce
65P/Gunn										
65	2024 07 04.47	C 16.2	AQ	35.0T	5a240	0.8			ICQ XX PEA	Andrew Pearce
37P/Forbes										
37	2024 07 30.76	C 16.1	AQ	50.0T	6a240	0.5		0.4 m116	ICQ XX PEA	Andrew Pearce
37	2024 07 28.78	C 15.9	AQ	50.0T	6a240	0.7			ICQ XX PEA	Andrew Pearce
37	2024 07 27.78	C 15.9	AQ	50.0T	6a240	0.7		0.3 m123	ICQ XX PEA	Andrew Pearce
37	2024 07 26.78	C 16.3	AQ	50.0T	6a360	0.5		0.4 m120	ICQ XX PEA	Andrew Pearce
37	2024 07 08.75	C 16.2	AQ	50.0T	6a360	0.4		0.5 m124	ICQ XX PEA	Andrew Pearce
37	2024 07 06.74	C 16.4	AQ	50.0T	6a360	0.4		0.8 m121	ICQ XX PEA	Andrew Pearce
21P/Giacobini-Zinner										
21	2024 07 27.14	C 20.4	BG	30.5H	4				ICQ XX MAI01	John Maikner
13P/Olbers										
13	2024 07 31.15	Z 7.3	GG	5.0R	4a180	8			ICQ XX OLAAA	Michael Olason
13	2024 07 29.91	B 7.4	TI	29.8L	65	4	4/	10 m 70	ICQ XX HAR11	Christian Harder
13	2024 07 29.88	S 7.0	TK	7.0B	6 16	5	5	0.16 50	PIL01	Uwe Pilz
13	2024 07 28.91	S 7.3	TI	29.8L	65	3.4	4/		ICQ XX HAR11	Christian Harder
13	2024 07 25.85	I 7.0:S	7.0B	10					ICQ XX DEC	Michel Deconinck

13	2024	07	24.90	S	7.2	TI	25.2L	56	4	4/					ICQ	XX	HAR11	Christian Harder
13	2024	07	24.90	S	6.4	TK	5.0B	10	5	5/	0.6	50			ICQ	XX	GON05	Juan Jose Gonzalez Suarez
13	2024	07	23.17	Z	6.8	GG	5.0R	4a180	8						ICQ	XX	OLAaa	Michael Olason
13	2024	07	22.88	S	7.2	TK	7.0B	6 16	2.5	5/							PIL01	Uwe Pilz
13	2024	07	22.88	O	6.8:	S	12.0B	5 40	2	6	12	m150			ICQ	XX	DEC	Michel Deconinck
13	2024	07	17.92	S	7.0:	TI	25.2L	56	3	4	7	m 35			ICQ	XX	HAR11	Christian Harder
13	2024	07	09.17	Z	6.9	GG	5.0R	4a300	8						ICQ	XX	OLAaa	Michael Olason
13	2024	07	01.91	S	6.1	TK	5.0B	10	5	5/	0.8	50			ICQ	XX	GON05	Juan Jose Gonzalez Suarez
13	2024	06	28.17	Z	6.9	GG	5.0R	4a180	8						ICQ	XX	OLAaa	Michael Olason
12P/Pons-Brooks																		
12	2024	08	01.38	xM	9.3	TK	25.0L	5 40	7.5	3/					ICQ	XX	WYA	Christopher Wyatt
12	2024	07	31.39	S	9.2	TT	7.0B	15	3	3					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	30.39	S	9.0	TT	7.0B	15	4	3					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	28.38	S	8.9	TT	7.0B	15	3	4					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	26.40	S	8.5	TT	7.0B	15	4	5					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	25.90	M	8.8	TK	10.0B	25	1	3					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	23.90	M	8.7	TK	10.0B	25	1	3					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	23.36	xM	8.8	TK	25.0L	5 40	4.6	4/					ICQ	XX	WYA	Christopher Wyatt
12	2024	07	22.90	M	8.6	TK	10.0B	25	1	3/					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	21.90	M	8.6	TK	10 B	25	1	3/					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	17.89	M	8.4	TK	10 B	25	2	3/					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	16.89	M	8.3	TK	10 B	25	2	3					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	16.44	V	8.7	AQ	5.0R	5a720	8						ICQ	XX	PEA	Andrew Pearce
12	2024	07	15.44	V	8.8	AQ	5.0R	5a720	8						ICQ	XX	PEA	Andrew Pearce
12	2024	07	13.44	V	8.6	AQ	5.0R	5a720	9						ICQ	XX	PEA	Andrew Pearce
12	2024	07	11.73	S	9.3	TI	22.1L	72	3.5	3					ICQ	XX	HAR11	Christian Harder
12	2024	07	10.36	xM	8.1	TK	25.0L	5 40	6.6	5					ICQ	XX	WYA	Christopher Wyatt
12	2024	07	06.89	M	7.9	TK	10 B	25	2	3/					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	06.37	S	8.0	TT	7.0B	15	5	5					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	05.44	V	8.4	AQ	5.0R	5a720	8.5						ICQ	XX	PEA	Andrew Pearce
12	2024	07	04.44	V	8.2	AQ	5.0R	5a720	8.6		1.8	m162			ICQ	XX	PEA	Andrew Pearce
12	2024	07	03.44	V	8.3	AQ	5.0R	5a600	9		2.4	m163			ICQ	XX	PEA	Andrew Pearce
12	2024	07	02.89	M	7.8	TK	10 B	25	2	4					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
12	2024	07	02.44	V	8.1	AQ	5.0R	5a720	9.3		3.8	m170			ICQ	XX	PEA	Andrew Pearce
12	2024	07	02.38	S	7.8	TT	7.0B	15	5	5					ICQ	XX	MAT08	Michael Mattiazzo
12	2024	07	01.90	M	7.7	TK	10 B	25	3	4/					ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
C/2024 G1 (Wierzchos)																		
	2024G1	2024	07	28.28	C	19.7	BG	30.5H	4B700						ICQ	XX	MAI01	John Maikner
C/2024 E1 (Wierzchos)																		
	2024E1	2024	07	27.08	C	19.5	BG	30.5H	4B400						ICQ	XX	MAI01	John Maikner
C/2023 V4 (Camarasa-Duszanowicz)																		
	2023V4	2024	07	31.20	Z	12.7	GG	5.0R	4a600	3					ICQ	XX	OLAaa	Michael Olason
	2023V4	2024	07	29.93	S	12.8:	TI	29.8L	108	1.8	2/				ICQ	XX	HAR11	Christian Harder
	2023V4	2024	07	24.91	S	11.7	AQ	20.3T10	100	2.2	3				ICQ	XX	GON05	Juan Jose Gonzalez Suarez
	2023V4	2024	07	09.20	Z	11.5	GG	5.0R	4a300	3					ICQ	XX	OLAaa	Michael Olason
	2023V4	2024	07	01.93	S	10.8	TK	20.3T10	77	2.5	3/				ICQ	XX	GON05	Juan Jose Gonzalez Suarez
C/2023 C2 (ATLAS)																		
	2023C2	2024	07	31.76	C	13.9	AQ	50.0T	6a120	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	28.80	C	13.7	AQ	50.0T	6a120	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	27.77	C	13.5	AQ	50.0T	6a180	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	26.77	C	14.0	AQ	50.0T	6a180	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	25.95	C	13.8	AQ	50.0T	6a180	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	24.93	C	14.0	AQ	50.0T	6a180	0.7					ICQ	XX	PEA	Andrew Pearce
	2023C2	2024	07	11.91	S	13.6	TI	50.8L	180	0.6	3				ICQ	XX	HAR11	Christian Harder
C/2023 A3 (Tsuchinshan-ATLAS)																		
	2023A3	2024	07	31.38	S	8.7	TT	7.0B	15	3	6				ICQ	XX	MAT08	Michael Mattiazzo
	2023A3	2024	07	31.36	xM	8.9	TK	7.0B	15	3	5				ICQ	XX	WYA	Christopher Wyatt
	2023A3	2024	07	31.14	Z	8.9	GG	5.0R	4a500	3					ICQ	XX	OLAaa	Michael Olason
	2023A3	2024	07	30.38	S	8.8	TT	7.0B	15	3	6				ICQ	XX	MAT08	Michael Mattiazzo
	2023A3	2024	07	30.37	xM	8.7	TK	7.0B	15	3	5/	11	m102		ICQ	XX	WYA	Christopher Wyatt
	2023A3	2024	07	28.38	S	8.9	TT	7.0B	15	3	5				ICQ	XX	MAT08	Michael Mattiazzo
	2023A3	2024	07	26.74	Z	9.8	GG	10.6R	5a180	5.2	7	0.5	100		ICQ	XX	CHA03	José Chambó Bris
	2023A3	2024	07	26.38	S	9.0	TT	7.0B	15	3	5				ICQ	XX	MAT08	Michael Mattiazzo
	2023A3	2024	07	25.91	M	9.5	TK	27.0L	5 55	3	6				ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
	2023A3	2024	07	23.35	xM	9.5	TK	25.0L	5 40	1.9	6	15	m 98		ICQ	XX	WYA	Christopher Wyatt
	2023A3	2024	07	23.35	xM	9.3	TK	7.0B	15	2.5	5/				ICQ	XX	WYA	Christopher Wyatt
	2023A3	2024	07	23.15	Z	9.3	GG	5.0R	4a240	3					ICQ	XX	OLAaa	Michael Olason
	2023A3	2024	07	22.91	M	9.9	TK	27.0L	5 55	3	4				ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
	2023A3	2024	07	22.36	xM	9.1	TK	7.0B	15	2.1	3				ICQ	XX	WYA	Christopher Wyatt
	2023A3	2024	07	21.92	M	10.0	TK	27 L	5 55	3	4/				ICQ	XX	DES01	Jose Guilherme de Souza Aguiar
	2023A3	2024	07	21.72	C	10.3	AQ	10.6R	5a120	3		20	m100		ICQ	XX	PEA	Andrew Pearce
	2023A3	2024	07	20.72	C	10.3	AQ	10.6R	5a120	3		20.4	m101		ICQ	XX	PEA	Andrew Pearce
	2023A3	2024	07	19.72	C	10.4	AQ	10.6R	5a120	2.5		21.2	m100		ICQ	XX	PEA	Andrew Pearce
	2023A3	2024	07	18.72	C	10.4	AQ	10.6R	5a120	2.5		22.9	m101		ICQ	XX	PEA	Andrew Pearce
	2023A3	2024	07	16.72	C	10.4	AQ	10.6R	5a120	2.8		26	m100		ICQ	XX	PEA	Andrew Pearce
	2023A3	2024	07	16.47	V	10.5	AQ	5.0R	5A590	2.6		14.9	m 99		ICQ	XX	PEA	Andrew Pearce

2023A3	2024 07 16.17	Z 9.6 GG 5.0R 4a600	2.5						ICQ XX OLAaa	Michael Olason
2023A3	2024 07 15.47	V 10.6 AQ 5.0R 5A710	2.4		13.9	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 14.78	C 10.1 AQ 10.6R 5a120	2.5		26.5	m 99			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 13.47	V 10.5 AQ 5.0R 5A740	2.6		19.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 12.72	C 10.5 AQ 10.6R 5a120	2.2		15.5	m101			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 11.74	S 10.3 TI 22.1L 72	1.1	4	4.5	m105			ICQ XX HAR11	Christian Harder
2023A3	2024 07 11.72	C 10.4 AQ 10.6R 5a120	2.8		15.1	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 10.78	S 10.4 TI 22.1L 72	1	4	6.5	m100			ICQ XX HAR11	Christian Harder
2023A3	2024 07 10.35	xM 9.6 TK 25.0L 5 40	2.5	6	18	m104			ICQ XX WYA	Christopher Wyatt
2023A3	2024 07 09.74	S 10.4 TI 22.1L 72	1.6	4/	11	m110			ICQ XX HAR11	Christian Harder
2023A3	2024 07 09.37	xM 9.7 TK 7.0B 15	2.1	4/					ICQ XX WYA	Christopher Wyatt
2023A3	2024 07 07.19	Z 9.8 GG 5.0R 4a600	3						ICQ XX OLAaa	Michael Olason
2023A3	2024 07 06.92	M 10.0 TK 27 L 5 55	4	4/					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 06.38	S 9.7 TT 7.0B 15	2	5					ICQ XX MAT08	Michael Mattiazzo
2023A3	2024 07 04.46	V 10.9 AQ 5.0R 5A380	2.2		13.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 04.45	C 11.4 AQ 35.0T 5a 60	1.1		5	m102			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 03.46	V 11.0 AQ 5.0R 5A370	2.2		14.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 02.91	M 10.0 TK 27 L 5 55	4	4					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 02.46	V 10.9 AQ 5.0R 5A390	2.4		13.6	m 99			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 02.39	S 9.9 TT 7.0B 15	2	6					ICQ XX MAT08	Michael Mattiazzo
2023A3	2024 07 01.92	S 9.9 TK 20.3T10 77	1.7	6/	0.15	100			ICQ XX GON05	Juan Jose Gonzalez Suarez
2023A3	2024 07 01.91	M 10.1 TK 27 L 5 55	4	4					ICQ XX DES01	Jose Guilherme de Souza Aguiar
C/2022 N2 (PANSTARRS)										
2022N2	2024 07 27.89	C 15.8 AQ 50.0T 6a120	0.6						ICQ XX PEA	Andrew Pearce
C/2022 E2 (ATLAS)										
2022E2	2024 07 31.47	Z 12.9 GG 5.0R 4a600	2.5						ICQ XX OLAaa	Michael Olason
C/2021 X1 (Maury-Attard)										
2021X1	2024 07 19.16	C 17.7 BG 30.5H 4B400	1.5	s	2.5	s140			ICQ XX MAI01	John Maikner
C/2021 S3 (PANSTARRS)										
2021S3	2024 07 31.92	S 13.5 TI 29.8L 108	0.7	3					ICQ XX HAR11	Christian Harder
2021S3	2024 07 28.92	S 13.5:TI 29.8L 132	0.5	3					ICQ XX HAR11	Christian Harder
2021S3	2024 07 09.22	Z 12.8 GG 5.0R 4a600	2						ICQ XX OLAaa	Michael Olason
2021S3	2024 07 08.24	C 14.2 BG 30.5H 4A800							ICQ XX MAI01	John Maikner
C/2021 G2 (ATLAS)										
2021G2	2024 07 30.76	C 14.1 AQ 50.0T 6a120	0.9		2.5	m237			ICQ XX PEA	Andrew Pearce
2021G2	2024 07 28.81	C 14.1 AQ 50.0T 6a120	0.9		2.6	m243			ICQ XX PEA	Andrew Pearce
2021G2	2024 07 26.79	C 14.2 AQ 50.0T 6a120	0.9						ICQ XX PEA	Andrew Pearce
C/2020 V2 (ZTF)										
2020V2	2024 07 27.91	C 13.9 AQ 50.0T 6a180	1.1						ICQ XX PEA	Andrew Pearce
2020V2	2024 07 16.95	C 14.0 AQ 50.0T 6a180	0.9						ICQ XX PEA	Andrew Pearce
2020V2	2024 07 12.00	S 14.1 TI 50.8L 150	1	4					ICQ XX HAR11	Christian Harder
C/2020 K1 (PANSTARRS)										
2020K1	2024 07 31.17	C 15.6 AQ 50.0T 6a360	0.5						ICQ XX PEA	Andrew Pearce
2020K1	2024 07 28.17	C 15.8 AQ 50.0T 6a360	0.7						ICQ XX PEA	Andrew Pearce
2020K1	2024 07 20.19	C 16.3 AQ 50.0T 6a120	0.4						ICQ XX PEA	Andrew Pearce
C/2019 T4 (ATLAS)										
2019T4	2024 07 19.09	C 17.8 BG 30.5H 4C000	4	s					ICQ XX MAI01	John Maikner

Comets News

Looking Ahead to the Next 12 Months

The chart below shows those comets expected to become brighter than magnitude 10 in 2024. The number in each date bin is the expected brightness for that date. Magnitudes are only shown for dates when the comet is above the horizon during the dark of night (between the end of astronomical twilight in the evening and the start of astronomical twilight in the morning). The only exceptions are the dates bolded in red for C/2023 A3 (Tsuchinshan-ATLAS) and C/2024 G3 (ATLAS), when the comets will only be above the horizon in bright twilight but may still be bright enough to be observed.

All brightness predictions are just that—predictions, and they may be off by many magnitudes. Additionally, C/2023 A3 may be several magnitudes brighter than shown in early October due to forward scattering by dust OR fainter due to a number of different reasons (slower rate of brightening, disintegration).

	08/08/24	08/18/24	08/28/24	09/07/24	09/17/24	09/27/24	10/07/24	10/17/24	10/27/24	11/06/24	11/16/24	11/26/24	12/06/24	12/16/24	12/26/24	01/10/25	01/20/25	01/30/25	02/09/25	02/19/25	03/01/25	03/11/25	03/21/25	03/31/25	04/10/25	04/20/25	04/30/25	05/10/25	05/20/25	05/30/25	06/09/25	06/19/25	06/29/25	07/09/25	07/19/25	07/29/25		
Northern Hemisphere																																						
12P/Pons-Brooks																																						
13P/Olbers	6	6	7	7	8	8	9	9																														
C/2023 A3 (Tsuchinshan-ATLAS)						3	0	3	6	7	8	9																										
333P/LINEAR												9																										
C/2024 G3 (ATLAS)																																						
C/2024 E1 (Wierzbach)																				8	8	9																
Southern Hemisphere																																						
12P/Pons-Brooks																																						
13P/Olbers	6	6	7	7	8	8																																
C/2023 A3 (Tsuchinshan-ATLAS)	8	8				3	0	3	6	7	8	9																										
333P/LINEAR												9																										
C/2024 G3 (ATLAS)														9	7	2	8																					
C/2024 E1 (Wierzbach)																	7	7	7	8	8	9																

Figure 1 - Observability and brightness of comets expected to become brighter than magnitude 10 over the next 12 months.

Last 10 Periodic Comet Numberings (from WGSBN Bull. 4, #9)

485P/2022 U6 = P/2006 AH2 (Sheppard-Tholen)	MPC 172941
484P/2005 XR132 (Spacewatch)	MPC 172941
483P/2016 J1 = P/2010 M9 = P/2020 Y6 = P/2021 K5 (PANSTARRS)	MPC 171409
482P/2014 VF40 (PANSTARRS)	MPC 171409
481P/2012 WA_34 = P/2024 C5 (Lemmon-PANSTARRS)	MPC 171409
480P/2014 A3 = P/2023 X6 (PANSTARRS)	MPC 169139
479P/2011 NO1 = P/2023 WM26 (Elenin)	MPC 169139
478P/2023 Y3 = P/2017 BQ100 (ATLAS)	MPC 169139
477P/2018 P3 = P/2023 V8 (PANSTARRS)	MPC 169139
476P/2015 HG16 = P/2023 W2 (PANSTARRS)	MPC 169139

New Recoveries & Discoveries

C/2024 O1 (PANSTARRS) - On July 28, 2024, Rob Weyk reported a new 21st-magnitude comet from Pan-STARRS1 1.8-m survey data. C/2024 O1 is a distant comet that reached perihelion a year and a half ago, on January 29, 2023, at 6.61 au. Several pre-discovery observations were found back to June 2023. Being well past perihelion, the comet is now fading. [CBET 5424, MPEC 2024-P21]

P/2024 N5 = P/2012 US27 (Siding Spring) - Martin Masek recovered P/2012 US27 (Siding Spring) with the "Fotometric Robotic Atmospheric Monitor" 0.3-m f/6.8 reflector at Pierre Auger Observatory at Malarguee, Mendoza, Argentina. The comet was imaged on 2024 July 5, 6, and 11 at 19th magnitude. The new resulting orbit allowed Sam Deen to go back and find pre-discovery observations from a single night in 2002 of Sloan Digital Sky Survey data. P/Siding Spring reached 16th magnitude during its 2013 discovery apparition. This year the comet comes to perihelion on October 20 at 1.81 au and closest approach to Earth on November 13 at 0.88 au when it should peak at 14th magnitude. [CBET 5422, MPEC 2024-O57]

C/2024 N4 (Sarneczky) - This is one of two comets found in July by Krisztian Sarneczky of the Konkoly Observatory with a 0.6-m Schmidt telescope at Piszkesteto Observatory in Hungary. Sarneczky also discovered C/2022 A1 (Sarneczky). C/2024 N4 is a distant comet, a common theme for many of the July discoveries, with a perihelion on 2025 January 6 at 5.40 au. It is likely to peak at ~17th magnitude. [CBET 5421, MPEC 2024-O41]

C/2024 N3 (Sarneczky) - The other Krisztian Sarneczky discovery was also found with the 0.6-m Schmidt telescope at Piszkesteto Observatory, though pre-discovery observations were found from as far back as October 2023. C/2024 N3 was discovered on July 8 at 19th magnitude and is also a distant comet. Perihelion will occur on 2025 April 11 at 5.01 au. It is likely to peak at ~18th magnitude. [CBET 5417, MPEC 2024-O11]

P/2024 N2 = P/2010 T8 = P/2017 R2 (PANSTARRS) – On 2024 July 3, the Pan-STARRS program found a 21st magnitude Jupiter-family comet with the Pan-STARRS2 1.8-m reflector. Astro-detectives Rob Weryk and Sam Deen found earlier observations from 2009, 2010, 2016, and 2017, making the current return the comet's 3rd observed return. The current perihelion was on 2024 May 31 at 2.44 au. With an orbital period of 7.4 years, its next return will be in October 2031. [CBET 5411, MPEC 2024-N123]

C/2024 N1 (PANSTARRS) - The Pan-STARRS2 1.8-m Ritchey-Chretien reflector at Haleakala was used to find this 21-22nd magnitude comet on 2024 July 1, with pre-discovery observations also found in June. Perihelion occurs on 2025 October 18 at 4.40 au, when the comet will be around 19-20th magnitude. [CBET 5410, MPEC 2024-N107]

C/2024 M1 (ATLAS) - The "Asteroid Terrestrial-Impact Last Alert System" (ATLAS) search program found an apparently asteroidal object on 2024 June 29 at 17th magnitude with their 0.5-m f/2 Schmidt reflector at Rio Hurtado in Chile. C/2024 M1 comes to perihelion on 2024 November 20 at 1.70 au. It is predicted to reach a maximum brightness of 13th magnitude around the time of perihelion when the comet will approach to within 0.734 au of Earth. With an orbital period of 163.8 years, M1 may brighten rapidly, and there is a chance that it could become bright enough to be seen visually in moderately sized telescopes. [CBET 5419, MPEC 2024-N16]

C/2024 L5 (ATLAS) – ATLAS also found C/2024 L5, though with their 0.5-m f/2 Schmidt reflector at Sutherland, South Africa. L5 has a rather large eccentricity at 1.037. The reason for the high value is not because it is an interstellar comet, at least not yet, but because it experienced a very close approach to Saturn on 2022 January 24, at somewhere between 0.00013 and 0.018 au, according to the JPL Solar Systems Dynamics group. In CBET 5418, Seiichi Nakano gave a nominal miss distance of 0.0034 au, which is ~500,000 km or roughly the distance of the Saturnian moon Rhea. Due to Saturn, L5 will be ejected from our solar system. Before then, perihelion will be on 2025 March 10 at 3.43 au from the Sun. Around that time, the comet should peak at 15th magnitude. [CBET 5418, MPEC 2024-O15]

P/2024 L4 (Rankin) – This is an interesting comet that may be an example of an active near-Earth asteroid. P/2024 L4 was found on 2024 June 15 at 20th magnitude with the Mount Lemmon 1.5-m. It is the 11th comet

named for Catalina observer David Rankin, all found since 2020. With an asteroidal orbit that spans from a perihelion at 0.67 au (last perihelion on 2024 April 14) to an aphelion of 3.79 au, it has a short orbital period of 3.33 years, similar to 2P/Encke. Its current orbit passes no closer than 1.27 au from Jupiter. Close approaches to 0.064 au of the Earth are possible. Peter Jenniskens writes in CBET 5409 that it may be related to the minor meteor shower delta1 Canis Minorids. A search for observations in May 2024 when it should have been brighter was negative, suggesting its current brightness is due to an outburst. Hopefully, follow-up observations will shed some light on what's causing its activity, whether driven by the sublimation of ice or a break-up due to rapid rotation. [CBET 5409, MPEC 2024-N106]

C/2024 L3 (PANSTARRS) - The Pans-STARRS survey used their Pan-STARRS2 1.8-m Ritchey-Chretien reflector at Haleakala to find this 22nd magnitude comet on 2024 June 7. *C/2024 L3* is a distant object with a distant perihelion at 6.86 au back on 2023 November 25. It has likely already peaked in brightness. [CBET 5407, MPEC 2024-N105]

P/2007 HE4 = P/1894 F1 (Denning) – Peter VanWylen submitted a post to the comet-ml mailing list about the possibility of near-Earth asteroid 2007 HE4 being an active comet. Maik Meyer of Limburg, Germany, then looked into the orbit of 2007 HE4 and found a positive linkage with the long-lost periodic comet P/1894 F1 (Denning). Re-analysis of images taken in 2007 confirmed that the object was active but with a compact coma and short tail. In CBET 5425, Seiichi Nakano noted that the comet made 13 unobserved returns between 1894 and 2007.

During the 1894 discovery apparition, P/Denning had a perihelion distance of 1.15 au. Several close approaches to Jupiter have pushed perihelion out to 1.56 au. That and the very likely possibility that the comet was in an outburst in 1894 may explain why it went so long without observation. Its next perihelion will be on 2025 December 4, with a close approach to Earth at 0.96 au. Based on its 2007 return, the comet may peak at 17th magnitude at the end of 2025. [CBET 5425]

The discoverer of P/2007 HE4 = P/1894 F1 (Denning) was William F. Denning, one of the greatest visual amateur astronomers of all time. His observing career focused on the study of

1. Comets – He made five discoveries. The other four were 72P/1881 T1 (Denning-Fujikawa), C/1890 O2 (Denning), C/1891 F1 (Barnard-Denning), and C/1892 F1 (Denning).
2. Meteors and meteor showers
3. Novae - He discovered Nova Cygni 1920, and
4. Planets – He has been honored with his name on craters on both the Moon and Mars.

Comets Between Magnitude 6 and 10

C/2023 A3 (Tsuchinshan-ATLAS)

Discovered on 2023 January 9 at the Purple Mountain Observatory's XuYi Station and on February 22 by ATLAS
Dynamically new long-period comet

Orbit (from Minor Planet Center, MPEC 2024-O39)

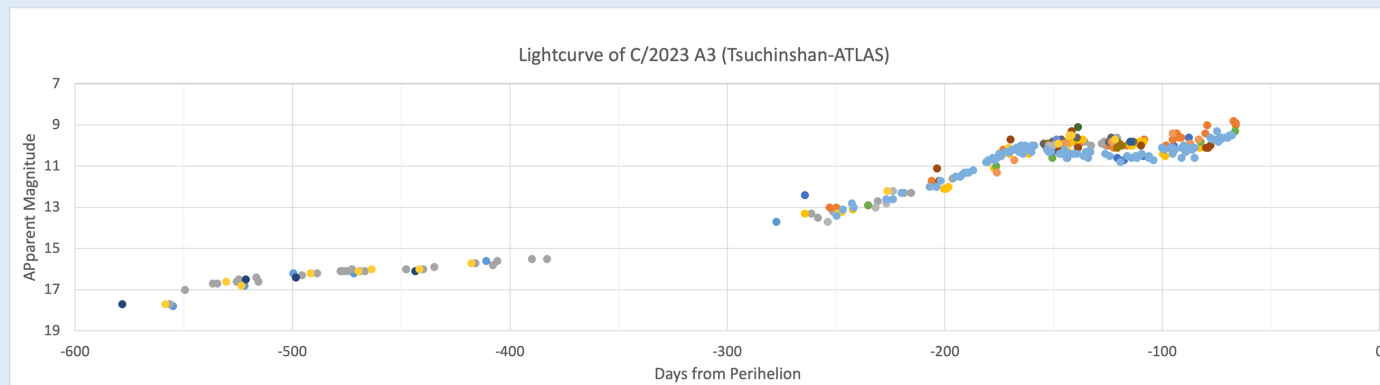
C/2023 A3 (Tsuchinshan-ATLAS)
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2024 Sept. 27.74063 TT Rudenko
q 0.3914100 (2000.0) P Q
z -0.0002369 Peri. 308.49352 +0.36145462 +0.90082653
+/-0.0000024 Node 21.55951 +0.91852499 -0.29970056
e 1.0000927 Incl. 139.11040 -0.16019490 +0.31415145
From 5042 observations 2022 Apr. 9-2024 July 22, mean residual 0".5.
1/a(orig) = -0.000012 AU**⁻¹, 1/a(fut) = -0.000053 AU**⁻¹.

Ephemerides (produced with Seiichi Yoshida's Comets for Windows program)

Date	R.A.	Decl.	r	d	Elong	Const	Mag	Max El (deg)	
								40N	40S
2024-Aug-01	10 55	+00 33	1.359	2.034	36E	Leo	8.6	0	18
2024-Aug-06	10 53	+00 02	1.270	2.018	31E	Leo	8.4	0	14
2024-Aug-11	10 51	-00 31	1.179	1.991	26E	Leo	8.1	0	10
2024-Aug-16	10 49	-01 07	1.087	1.953	22E	Sext	7.8	0	5
2024-Aug-21	10 47	-01 45	0.993	1.903	18E	Sext	7.4	0	1
2024-Aug-26	10 45	-02 26	0.897	1.839	14E	Sext	7.0	0	0
2024-Aug-31	10 43	-03 08	0.800	1.760	11E	Sext	6.6	0	0
2024-Sep-05	10 41	-03 51	0.703	1.663	11M	Sext	6.1	0	0

Comet Magnitude Formula (from ALPO, COBS, and MPC data)

$m_1 = -16.6 + 5 \log d + 35.0 \log r$ [Through T-650 days]
 $m_1 = 0.2 + 5 \log d + 15.7 \log r$ [Between T-650 and T-300 days]
 $m_1 = 6.0 + 5 \log d + 6.9 \log r$ [After T-300 days, assumed]
 where "t" is the date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au



Recent Magnitude Measurements Contributed to the ALPO Comets Section

Recent Magnitude Measurements in ICQ format:

Comet Des	YYYY MM DD.DD (UT)	Mag	SC	APER	FL	POW	COMA		TAIL		ICQ	CODE	Observer Name
							Dia	DC	LENG	PA			
2023A3	2024 07 31.38	S	8.7	TT	7.0B	15	3	6			ICQ XX MAT08	Michael Mattiazzo	
2023A3	2024 07 31.36	xM	8.9	TK	7.0B	15	3	5			ICQ XX WYA	Christopher Wyatt	
2023A3	2024 07 31.14	Z	8.9	GG	5.0R	4a500	3				ICQ XX OLAaa	Michael Olason	
2023A3	2024 07 30.38	S	8.8	TT	7.0B	15	3	6			ICQ XX MAT08	Michael Mattiazzo	
2023A3	2024 07 30.37	xM	8.7	TK	7.0B	15	3	5/ 11	m102		ICQ XX WYA	Christopher Wyatt	
2023A3	2024 07 28.38	S	8.9	TT	7.0B	15	3	5			ICQ XX MAT08	Michael Mattiazzo	
2023A3	2024 07 26.74	Z	9.8	GG	10.6R	5a180	5.2	7	0.5	100	ICQ XX CHA03	José Chambó Bris	
2023A3	2024 07 26.38	S	9.0	TT	7.0B	15	3	5			ICQ XX MAT08	Michael Mattiazzo	
2023A3	2024 07 25.91	M	9.5	TK	27.0L	5 55	3	6			ICQ XX DES01	Jose Guilherme de Souza Aguiar	
2023A3	2024 07 23.35	xM	9.5	TK	25.0L	5 40	1.9	6	15	m 98	ICQ XX WYA	Christopher Wyatt	
2023A3	2024 07 23.35	xM	9.3	TK	7.0B	15	2.5	5/			ICQ XX WYA	Christopher Wyatt	
2023A3	2024 07 23.15	Z	9.3	GG	5.0R	4a240	3				ICQ XX OLAaa	Michael Olason	

2023A3	2024 07 22.91	M 9.9 TK 27.0L 5 55	3	4					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 22.36	xM 9.1 TK 7.0B 15	2.1	3					ICQ XX WYA	Christopher Wyatt
2023A3	2024 07 21.92	M 10.0 TK 27 L 5 55	3	4/					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 21.72	C 10.3 AQ 10.6R 5a120	3		20	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 20.72	C 10.3 AQ 10.6R 5a120	3		20.4	m101			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 19.72	C 10.4 AQ 10.6R 5a120	2.5		21.2	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 18.72	C 10.4 AQ 10.6R 5a120	2.5		22.9	m101			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 16.72	C 10.4 AQ 10.6R 5a120	2.8		26	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 16.47	V 10.5 AQ 5.0R 5A590	2.6		14.9	m 99			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 16.17	Z 9.6 GG 5.0R 4a600	2.5						ICQ XX OLAaa	Michael Olason
2023A3	2024 07 15.47	V 10.6 AQ 5.0R 5A710	2.4		13.9	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 14.78	C 10.1 AQ 10.6R 5a120	2.5		26.5	m 99			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 13.47	V 10.5 AQ 5.0R 5A740	2.6		19.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 12.72	C 10.5 AQ 10.6R 5a120	2.2		15.5	m101			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 11.74	S 10.3 TI 22.1L 72	1.1	4	4.5	m105			ICQ XX HAR11	Christian Harder
2023A3	2024 07 11.72	C 10.4 AQ 10.6R 5a120	2.8		15.1	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 10.78	S 10.4 TI 22.1L 72	1	4	6.5	m100			ICQ XX HAR11	Christian Harder
2023A3	2024 07 10.35	xM 9.6 TK 25.0L 5 40	2.5	6	18	m104			ICQ XX WYA	Christopher Wyatt
2023A3	2024 07 09.74	S 10.4 TI 22.1L 72	1.6	4/	11	m110			ICQ XX HAR11	Christian Harder
2023A3	2024 07 09.37	xM 9.7 TK 7.0B 15	2.1	4/					ICQ XX WYA	Christopher Wyatt
2023A3	2024 07 07.19	Z 9.8 GG 5.0R 4a600	3						ICQ XX OLAaa	Michael Olason
2023A3	2024 07 06.92	M 10.0 TK 27 L 5 55	4	4/					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 06.38	S 9.7 TT 7.0B 15	2	5					ICQ XX MAT08	Michael Mattiazzo
2023A3	2024 07 04.46	V 10.9 AQ 5.0R 5A380	2.2		13.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 04.45	C 11.4 AQ 35.0T 5a 60	1.1		5	m102			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 03.46	V 11.0 AQ 5.0R 5A370	2.2		14.3	m100			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 02.91	M 10.0 TK 27 L 5 55	4	4					ICQ XX DES01	Jose Guilherme de Souza Aguiar
2023A3	2024 07 02.46	V 10.9 AQ 5.0R 5A390	2.4		13.6	m 99			ICQ XX PEA	Andrew Pearce
2023A3	2024 07 02.39	S 9.9 TT 7.0B 15	2	6					ICQ XX MAT08	Michael Mattiazzo
2023A3	2024 07 01.92	S 9.9 TK 20.3T10 77	1.7	6/	0.15	100			ICQ XX GON05	Juan Jose Gonzalez Suarez
2023A3	2024 07 01.91	M 10.1 TK 27 L 5 55	4	4					ICQ XX DES01	Jose Guilherme de Souza Aguiar

Comets can be unpredictable. It is this characteristic that makes them so interesting to observe. One is never quite sure what to expect when observing a comet. It may look just like it did last week, or it could be many magnitudes brighter in an outburst, or rapidly fading after a catastrophic breakup of its nucleus.

C/2023 A3 (Tsuchinshan-ATLAS) has been an example of a comet throwing us curveballs after it stopped brightening in mid-April, or at least apparently so. If you follow the comets-ml, you've read a lot of back-and-forth discussions about whether the comet is currently breaking up or still going strong. Whether the recent stall or even fade in brightness was due again to the comet breaking up or other effects like a changing phase angle or whether we were looking along the tail vector. Even within past issues of the ALPO Comet News, I stated that the comet was intrinsically fading.

I'm happy to report that I no longer believe this is the case. Rather, the ALPO data suggests that the comet's recent brightening anomaly is just due to the comet's phase function. In short, the comet has been appearing to fade since mid-April because that was the time of opposition and a minimum phase angle (Sun-comet-observer angle) of 3 deg. The phase angle increased to 30 deg in early July. That 3 to 30 deg increase in phase angle resulted in an apparent fading of ~0.5 degrees for a dusty comet.

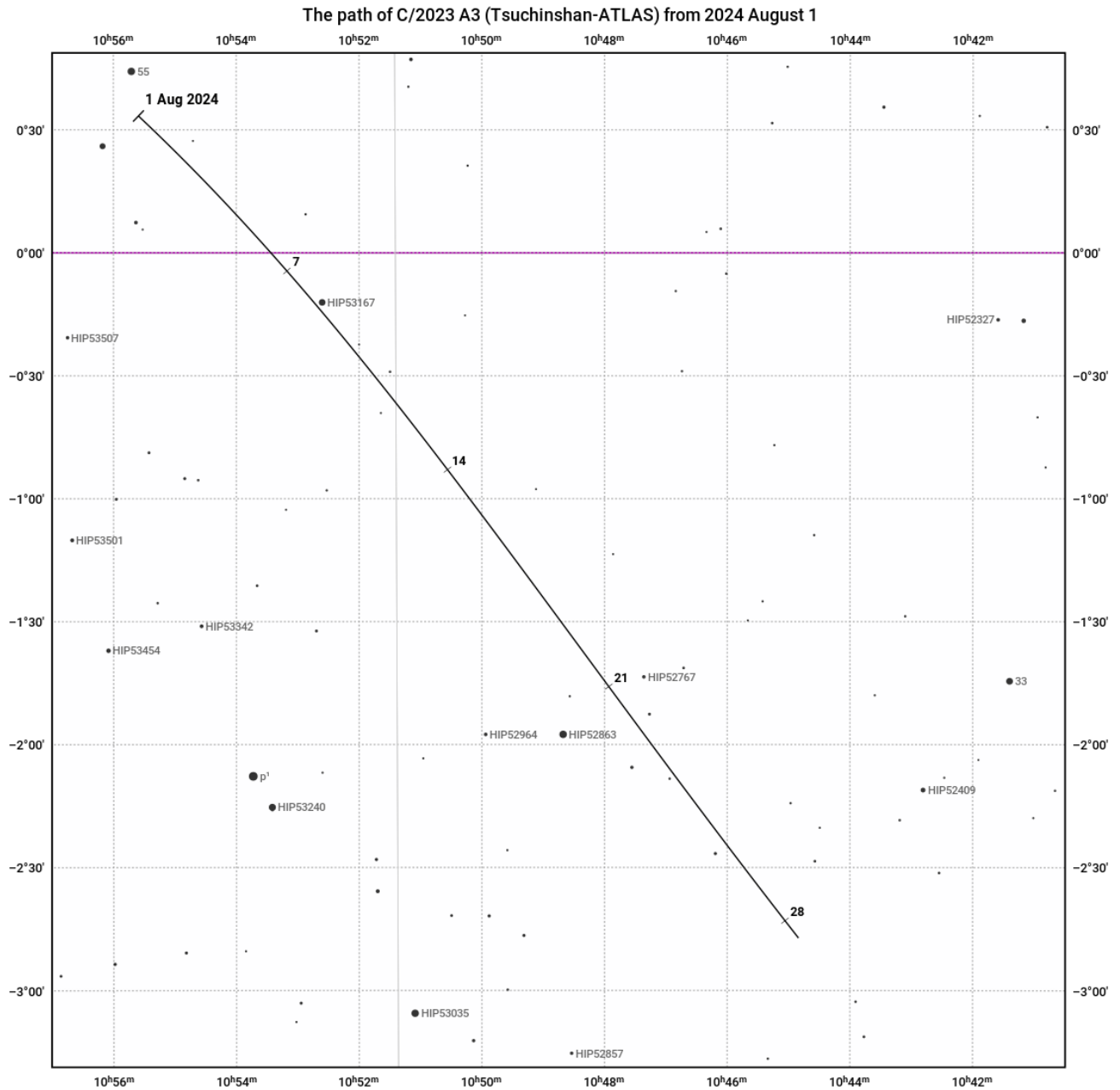
After correcting for the phase function effects, we find that the comet is still brightening but at a slower rate than in 2023. In 2023, it was brightening at a rapid ~17 log r clip; now, that brightening has slowed to ~7 log r, which is rather typical for dynamically new comets. What this means is that Tsuchinshan-ATLAS is still looking healthy and not breaking up, at least not yet.

Observations from July now show the comet once again increasing in brightness. At the beginning of July, most observers found Tsuchinshan-ATLAS to be around magnitude 10, while at the end of July, it was reported to be brighter than magnitude 9. Unfortunately, the comet is no longer visible to northern hemisphere observers. Observers in the southern hemisphere can still follow the comet at least till the middle of the month, when they, too, will lose it in the brightness of evening twilight. At that time its brightness will have increased to between magnitude 8.0 and 7.5.

Next month, we'll revisit the comet's brightening trend and see what it will mean for the comet in September and October.

Photo Opportunities

Aug 10 - C/2023 A3 (Tsuchinshan-ATLAS) passes ~7' from 13th mag galaxy IC 653



© Dominic Ford 2011-2024. Chart generated 28 Jul 2024. Date markers placed at midnight UTC. Downloaded from <https://in-the-sky.org>

Magnitude scale: · 10.0 · 9.0 · 8.0 · 7.0 · 6.0 ● 5.0

— The Equator — Ecliptic Plane — Galactic Plane

● Galaxy ■ Bright nebula ● Open cluster ● Globular cluster

Figure 2 - Star chart for C/2023 A3 in August 2024. Chart produced at in-the-sky.org.

12P/Pons-Brooks

Discovered visually on 1812 July 12 by Jean-Louis Pons and rediscovered visually on 1883 September 2 by William R. Brooks
Halley-type comet

Orbit (from Minor Planet Center, MPEC 2024-O39)

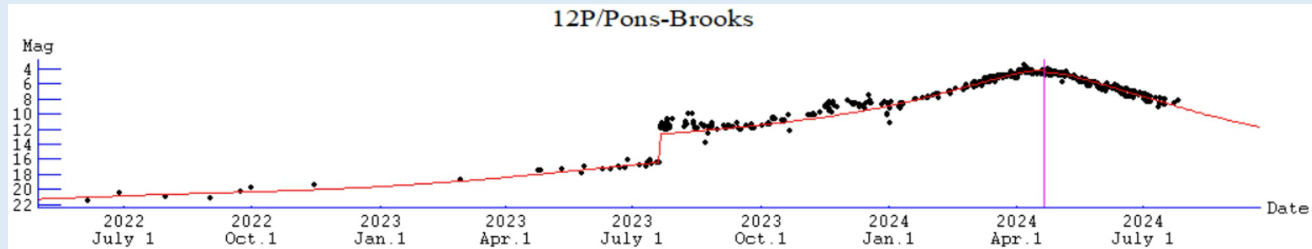
12P/Pons-Brooks
 Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
 T 2024 Apr. 21.12515 TT Rudenko
 q 0.7808598 (2000.0) P Q
 n 0.01380403 Peri. 198.99323 +0.14510203 -0.32930559
 a 17.2107060 Node 255.85499 +0.98566963 +0.13010202
 e 0.9546294 Incl. 74.19214 +0.08602782 -0.93521724
 P 71.4
 From 1820 observations 2024 Jan. 1-July 22, mean residual 0".6.

Ephemerides (produced with Seiichi Yoshida's Comets for Windows program)

Date	R.A.	Decl.	r	d	Elong	Const	Mag	Max El (deg)	
								40N	40S
2024-Aug-01	10 20	-45 10	1.879	2.031	66E	Vel	9.4	0	37
2024-Aug-06	10 42	-45 50	1.944	2.114	66E	Vel	9.6	0	37
2024-Aug-11	11 03	-46 21	2.008	2.203	65E	Vel	9.9	0	37
2024-Aug-16	11 22	-46 44	2.072	2.295	64E	Cen	10.1	0	36
2024-Aug-21	11 41	-47 01	2.136	2.390	63E	Cen	10.3	0	36
2024-Aug-26	11 59	-47 13	2.199	2.488	61E	Cen	10.6	0	35
2024-Aug-31	12 16	-47 21	2.262	2.587	60E	Cen	10.8	0	34
2024-Sep-05	12 33	-47 26	2.324	2.688	58E	Cen	11.0	0	33

Comet Magnitude Formula (from ALPO and COBS data for the 1954 and 2023 returns)

$m_1 = 6.8 + 5 \log d + 11.6 \log r$ [between T-684 and T-275 days]
 $m_1 = 4.2 + 5 \log d + 9.7 \log r$ [between T-275 days and perihelion]
 $m_1 = 4.7 + 5 \log d + 11.4 \log r$ [after perihelion]
 where "t" is date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au



Recent Magnitude Measurements Contributed to the ALPO Comets Section

Recent Magnitude Measurements in ICQ format:

Comet Des	YYYY MM DD.DD (UT)	Mag	SC	APER	FL	POW	COMA Dia	TAIL DC	ICQ CODE	Observer Name
12	2024 07 31.39	S 9.2	TT	7.0B	15	3	3		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 30.39	S 9.0	TT	7.0B	15	4	3		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 28.38	S 8.9	TT	7.0B	15	3	4		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 26.40	S 8.5	TT	7.0B	15	4	5		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 25.90	M 8.8	TK	10.0B	25	1	3		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 23.90	M 8.7	TK	10.0B	25	1	3		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 23.36	xM 8.8	TK	25.0L	5 40	4.6	4/		ICQ XX WYA	Christopher Wyatt
12	2024 07 22.90	M 8.6	TK	10.0B	25	1	3/		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 21.90	M 8.6	TK	10 B	25	1	3/		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 17.89	M 8.4	TK	10 B	25	2	3/		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 16.89	M 8.3	TK	10 B	25	2	3		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 16.44	V 8.7	AQ	5.0R	5a720	8			ICQ XX PEA	Andrew Pearce
12	2024 07 15.44	V 8.8	AQ	5.0R	5a720	8			ICQ XX PEA	Andrew Pearce
12	2024 07 13.44	V 8.6	AQ	5.0R	5a720	9			ICQ XX PEA	Andrew Pearce
12	2024 07 11.73	S 9.3	TI	22.1L	72	3.5	3		ICQ XX HAR11	Christian Harder
12	2024 07 10.36	xM 8.1	TK	25.0L	5 40	6.6	5		ICQ XX WYA	Christopher Wyatt
12	2024 07 06.89	M 7.9	TK	10 B	25	2	3/		ICQ XX DES01	Jose Guilherme de Souza Aguiar
12	2024 07 06.37	S 8.0	TT	7.0B	15	5	5		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 05.44	V 8.4	AQ	5.0R	5a720	8.5			ICQ XX PEA	Andrew Pearce
12	2024 07 04.44	V 8.2	AQ	5.0R	5a720	8.6		1.8 m162	ICQ XX PEA	Andrew Pearce
12	2024 07 03.44	V 8.3	AQ	5.0R	5a600	9		2.4 m163	ICQ XX PEA	Andrew Pearce
12	2024 07 02.89	M 7.8	TK	10 B	25	2	4		ICQ XX DES01	Jose Guilherme de Souza Aguiar

12	2024 07 02.44	V	8.1	AQ	5.0R	5a720	9.3	3.8	m170	ICQ XX PEA	Andrew Pearce
12	2024 07 02.38	S	7.8	TT	7.0B	15	5	5		ICQ XX MAT08	Michael Mattiazzo
12	2024 07 01.90	M	7.7	TK	10 B	25	3	4/		ICQ XX DES01	Jose Guilherme de Souza Aguiar

This month, Halley-type comet 12P/Pons-Brooks fades from around magnitude 9.4 to 10.8. The comet is making its first return since 1954. Now past its April perihelion at 0.78 au, Pons-Brooks is receding back into the outer solar system. Its next perihelion will be in 71 years, in 2095.

The comet continues to be a southern-hemisphere-only object as it passes through the southern constellations of Vela (Aug 1-11) and Centaurus (11-31).

Though Pons-Brooks is fading, observers are encouraged to watch the comet for post-perihelion outbursts. The first post-perihelion outburst was detected on April 11, though it likely occurred a day or two earlier.

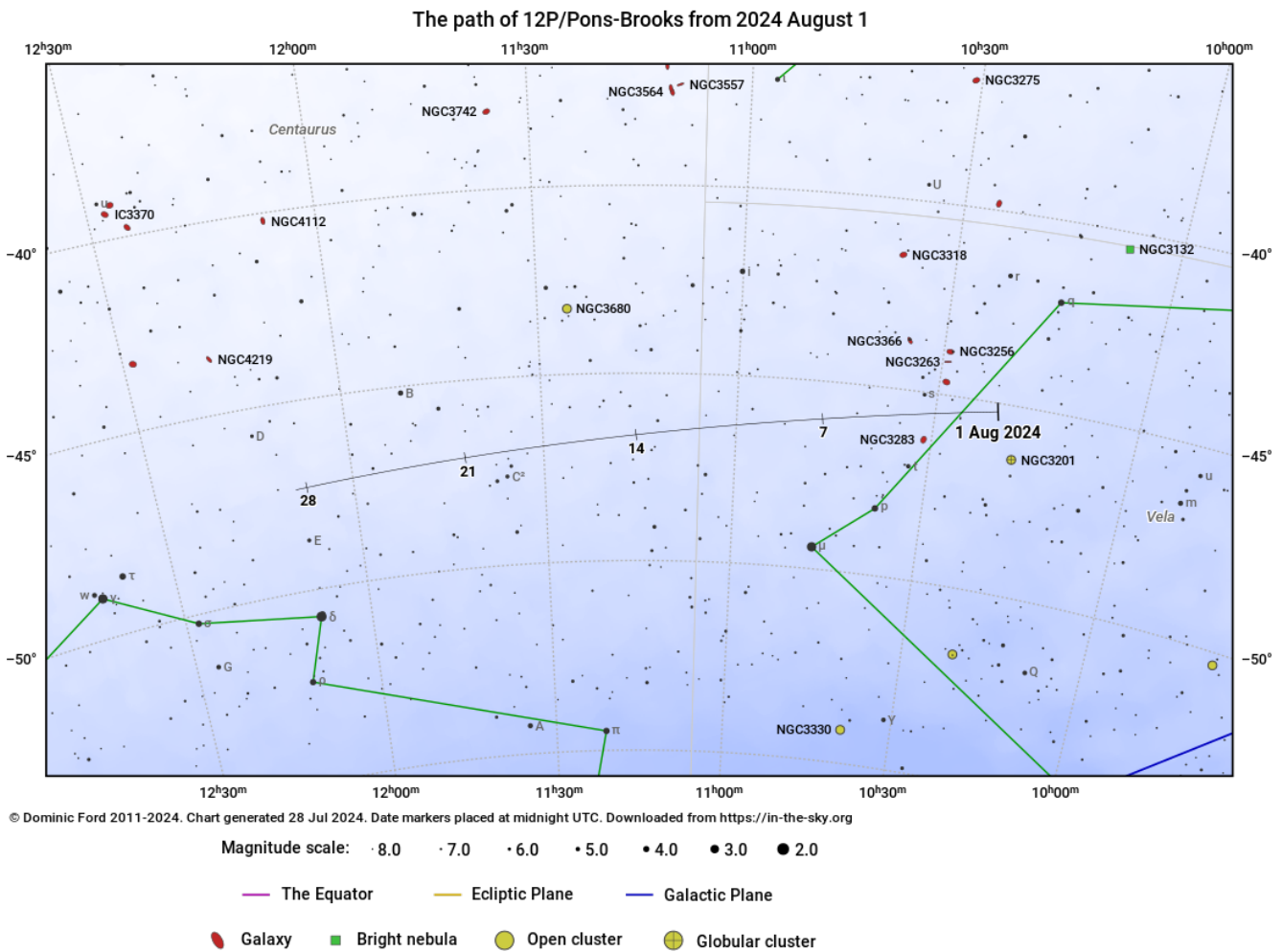


Figure 3 - Finder chart for 12P/Pons-Brooks in August 2024 from in-the-sk

13P/Olbers

Discovered visually on 1815 March 6 by Heinrich Olbers in Bremen, Germany
Halley-type comet

Orbit (from Minor Planet Center, MPEC 2024-O39)

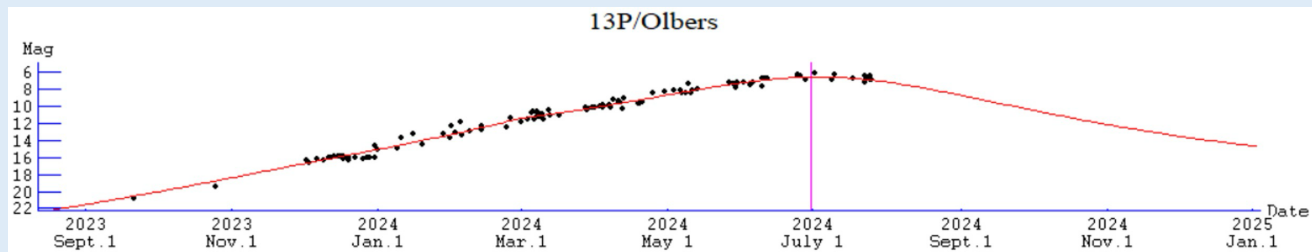
13P/Olbers
 Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
 T 2024 June 30.04948 TT Rudenko
 q 1.1754495 (2000.0) P Q
 n 0.01425663 Peri. 64.41654 -0.60853056 -0.37163350
 a 16.8445035 Node 85.84708 +0.18556273 -0.92570059
 e 0.9302176 Incl. 44.66600 +0.77152902 -0.07047669
 P 69.1
 From 1591 observations 2023 Oct. 8-2024 July 22, mean residual 0".5.
 Nongravitational parameters A1 = +0.71, A2 = -0.6204.

Ephemerides (produced with Seiichi Yoshida's Comets for Windows program)

13P/Olbers								Max El (deg)	
Date	R.A.	Decl.	r	d	Elong	Const	Mag	40N	40S
2024-Aug-01	11 17	+34 48	1.272	1.914	37E	UMa	7.2	18	0
2024-Aug-06	11 40	+32 28	1.302	1.933	38E	UMa	7.4	19	0
2024-Aug-11	12 01	+29 57	1.336	1.959	39E	UMa	7.6	19	0
2024-Aug-16	12 22	+27 20	1.372	1.992	39E	Com	7.9	19	2
2024-Aug-21	12 40	+24 40	1.411	2.032	39E	Com	8.1	19	3
2024-Aug-26	12 58	+21 59	1.452	2.078	39E	Com	8.4	19	4
2024-Aug-31	13 15	+19 20	1.496	2.129	39E	Com	8.7	19	5
2024-Sep-05	13 30	+16 45	1.541	2.186	39E	Com	9.0	19	5

Comet Magnitude Formula (from 1956 ICQ and 2023 ALPO data)

$m_1 = -0.9 + 5 \log d + 32.9 \log r$ [Up through T-120 days]
 $m_1 = 3.9 + 5 \log d + 18.0 \log r$ [After T-120 days]
 where "T" is date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au



Recent Magnitude Estimates submitted to the ALPO Comets Section

Recent Magnitude Measurements in ICQ format:

Comet Des	YYYY MM DD.DD (UT)	Mag	SC	APER	FL	POW	COMA Dia	DC	TAIL LENG	PA	ICQ CODE	Observer Name
13	2024 07 29.91	B 7.4	TI	29.8L	65	4	4/	10	m 70		ICQ XX HAR11	Christian Harder
13	2024 07 29.88	S 7.0	TK	7.0B 6	16	5	5	0.16	50		PIL01	Uwe Pilz
13	2024 07 28.91	S 7.3	TI	29.8L	65	3.4	4/				ICQ XX HAR11	Christian Harder
13	2024 07 25.85	I 7.0	:S	7.0B	10						ICQ XX DEC	Michel Deconinck
13	2024 07 24.90	S 7.2	TI	25.2L	56	4	4/				ICQ XX HAR11	Christian Harder
13	2024 07 24.90	S 6.4	TK	5.0B	10	5	5/	0.6	50		ICQ XX GON05	Juan Jose Gonzalez Suarez
13	2024 07 23.17	Z 6.8	GG	5.0R 4a180	8						ICQ XX OLAaa	Michael Olason
13	2024 07 22.88	S 7.2	TK	7.0B 6	16	2.5	5/				PIL01	Uwe Pilz
13	2024 07 22.88	O 6.8	:S	12.0B 5	40	2	6	12	m150		ICQ XX DEC	Michel Deconinck
13	2024 07 17.92	S 7.0	:TI	25.2L	56	3	4	7	m 35		ICQ XX HAR11	Christian Harder
13	2024 07 09.17	Z 6.9	GG	5.0R 4a300	8						ICQ XX OLAaa	Michael Olason
13	2024 07 01.91	S 6.1	TK	5.0B	10	5	5/	0.8	50		ICQ XX GON05	Juan Jose Gonzalez Suarez
13	2024 06 28.17	Z 6.9	GG	5.0R 4a180	8						ICQ XX OLAaa	Michael Olason

Halley-type comet 13P/Olbers is making its first return since 1956. Its next return won't be for another 70 years in 2094. As August begins, Olbers is the brightest comet in the sky at magnitude 7.2. It starts the month only visible from the northern hemisphere as it moves through Ursa Major (Aug 1-12) and Coma Berenices (12-31).

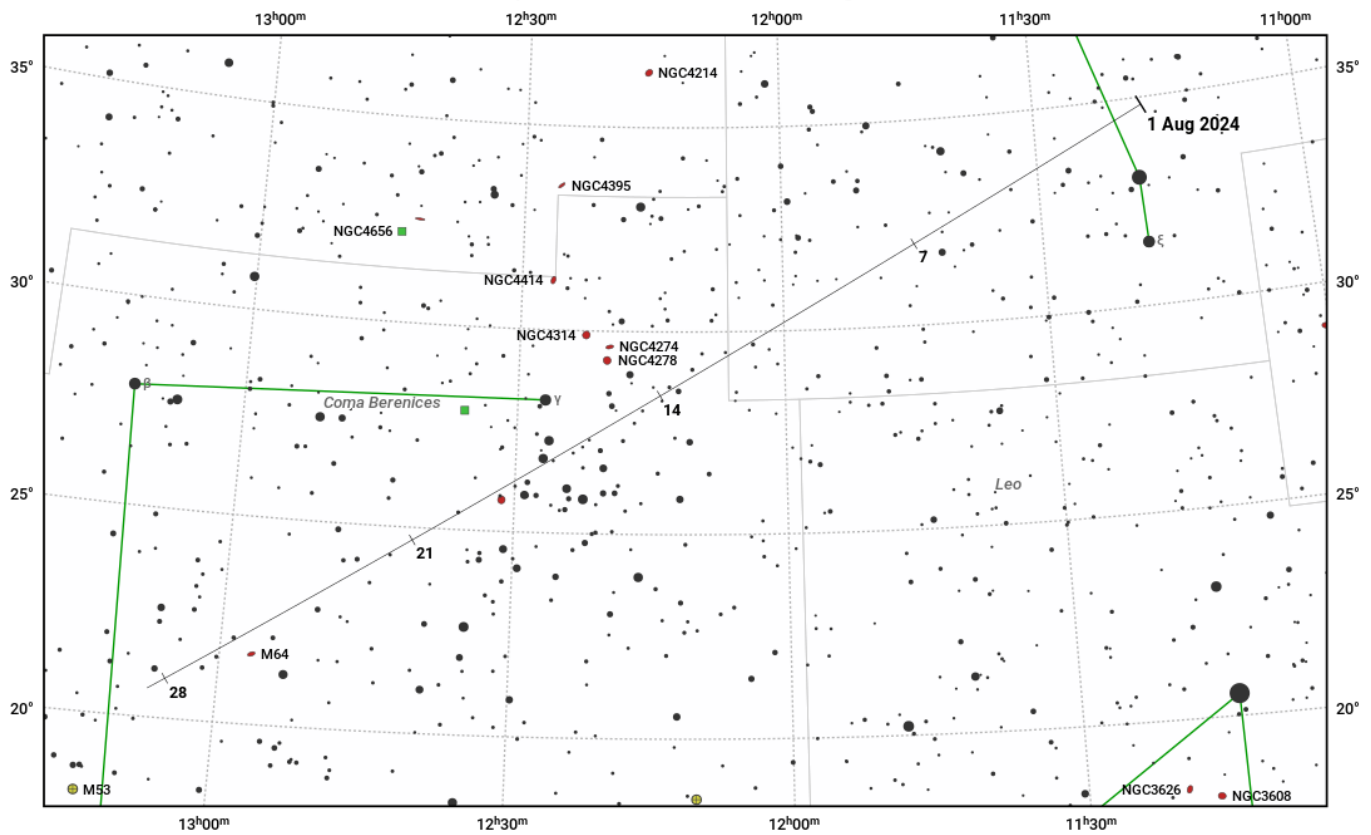
Southern hemisphere observers will get a chance to try for Olbers, though still at very low elevations, during the 2nd half of August. By month's end, the comet will have faded to around magnitude 8.7.

Visual observations made in July found the comet to have a 2' to 5' coma with moderate condensation (DC of 4-5.5) and a tail up to 0.2 deg in length. A nearly nightly sequence of images taken by Dan Bartlett has shown Olbers to possess a highly dynamic and ever-changing ion. There have been times when the comet has looked like a sidewinder slithering across desert dunes, the tail taking on an 'S' shape. See the cover of the pdf version of this issue for a wonderful sequence of Olbers' changing tail as documented by Dan and his RASA11.

Photo Opportunities

- Aug 1 - 13P/Olbers passes through the galaxy chain of IC 2735, 2738, 2744, and 2751 (all 14-15th mag)
- Aug 5 - 13P/Olbers passes within 5' of 13th mag galaxy NGC 4020
- Aug 13 - 13P/Olbers passes over 12th mag galaxy NGC 4185 and within 4' of 13th mag galaxy NGC 4196
- Aug 13 - 13P/Olbers passes within a few arc min of 13th mag galaxy NGC 4275
- Aug 18 - 13P/Olbers passes ~15' from 9th mag edge-on galaxy NGC 4494
- Aug 18-19 - 13P/Olbers passes ~30' from 12th mag edge-on galaxy NGC 4565
- Aug 25 - 13P/Olbers passes ~15' from 8th mag galaxy M64

The path of 13P/Olbers from 2024 August 1



© Dominic Ford 2011-2024. Chart generated 28 Jul 2024. Date markers placed at midnight UTC. Downloaded from <https://in-the-sky.org>

Magnitude scale: · 9.0 · 8.0 · 7.0 · 6.0 · 5.0 · 4.0 · 3.0 · 2.0

— The Equator — Ecliptic Plane — Galactic Plane

● Galaxy ■ Bright nebula ● Open cluster ● Globular cluster

Figure 4 - Finder chart for 13P/Olbers in August 2024 from in-the-sky.org.

Comets Between Magnitude 10 and 12

C/2023 V4 (Camarasa-Duszanowicz)

Discovered 2023 November 5 by Jordi Camarasa (Barcelona, Spain) and Grzegorz Duszanowicz (Akersberga, Sweden) from "Moonbase South Observatory" at the Hakos "Astro Farm" in Namibia
Dynamically new long-period comet

Orbit (from Minor Planet Center, MPEC 2024-O39)

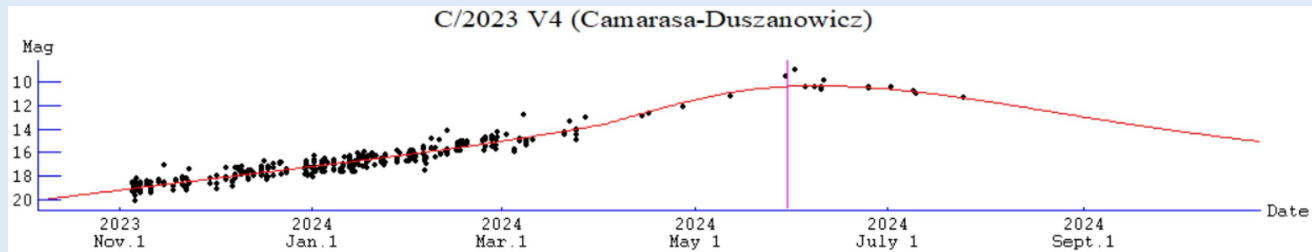
C/2023 V4 (Camarasa-Duszanowicz)
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2024 May 30.36711 TT Rudenko
q 1.1217444 (2000.0) P Q
z -0.0009031 Peri. 50.85738 -0.02258610 -0.53610447
+/-0.0000014 Node 66.32596 +0.35721185 -0.79267431
e 1.0010130 Incl. 67.13004 +0.93375027 +0.29027477
From 694 observations 2023 Nov. 5-2024 July 21, mean residual 0".6.
1/a(orig) = -0.000101 AU**⁻¹, 1/a(fut) = -0.001002 AU**⁻¹.

Ephemerides (produced with Seiichi Yoshida's Comets for Windows program)

Date	R.A.	Decl.	r	d	Elong	Const	Mag	Max El (deg)	
								40N	40S
2024-Aug-01	12 05	+45 49	1.496	1.936	49E	UMa	11.7	32	0
2024-Aug-06	12 26	+42 30	1.546	1.989	49E	CVn	11.9	32	0
2024-Aug-11	12 45	+39 11	1.598	2.049	49E	CVn	12.1	31	0
2024-Aug-16	13 01	+35 56	1.651	2.116	49E	CVn	12.3	31	1
2024-Aug-21	13 16	+32 48	1.705	2.188	49E	CVn	12.5	30	2
2024-Aug-26	13 29	+29 49	1.760	2.265	48E	CVn	12.7	29	3
2024-Aug-31	13 41	+26 58	1.816	2.346	47E	Boo	12.9	28	3
2024-Sep-05	13 52	+24 18	1.872	2.431	45E	Boo	13.2	26	3

Comet Magnitude Formula (from MPC and COBS data)

m1 = 9.4 + 5 log d + 15.4 log r [up till T-60 days]
m1 = 7.7 + 5 log d + 25.8 log r [between T-60 days and perihelion]
m1 = 8.4 + 5 log d + 10.4 log r [after perihelion]
Where "t" is the date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au.



Recent Magnitude Measurements Contributed to the ALPO Comets Section

Recent Magnitude Measurements in ICQ format:

Comet Des	YYYY MM DD.DD (UT)	Mag	SC	APER	FL	POW	COMA Dia DC	TAIL LENG PA	ICQ	CODE	Observer Name
2023V4	2024 07 29.93	S 12.8	TI	29.8L	108	1.8	2/		ICQ XX	HAR11	Christian Harder
2023V4	2024 07 24.91	S 11.7	AQ	20.3T10	100	2.2	3		ICQ XX	GON05	Juan Jose Gonzalez Suarez
2023V4	2024 07 09.20	Z 11.5	GG	5.0R	4a300	3			ICQ XX	OLAaa	Michael Olason
2023V4	2024 07 01.93	S 10.8	TK	20.3T10	77	2.5	3/		ICQ XX	GON05	Juan Jose Gonzalez Suarez

C/2023 V4 (Camarasa-Duszanowicz) just barely makes the cut this month, as it starts August a few tenths of a magnitude brighter than our usual magnitude 12 cut-off. Even then, it is fading after passing perihelion back on May 30 at 1.12 au. An evening object, it is still best seen from the northern hemisphere as it moves through Ursa Major (Aug 1-2), Canes Venatici (2-29), and Boötes (29-31). It may also be visible from the southern hemisphere during the 2nd half of August, though it will be a very low object. By the end of August, it will be close to magnitude 13.0. Though getting faint, there are a few nice photo opportunities with similarly bright galaxies.

Photo Opportunities

- Aug 6 - C/2023 V4 (Camarasa-Duszanowicz) passes within 10' of 9th and 11th mag galaxy pair NGC 4490 and 4485
- Aug 16 - C/2023 V4 (Camarasa-Duszanowicz) passes within 2' of 13th mag galaxy NGC 4956
- Aug 23 - C/2023 V4 (Camarasa-Duszanowicz) passes within 3' of 13th mag galaxy NGC 5131

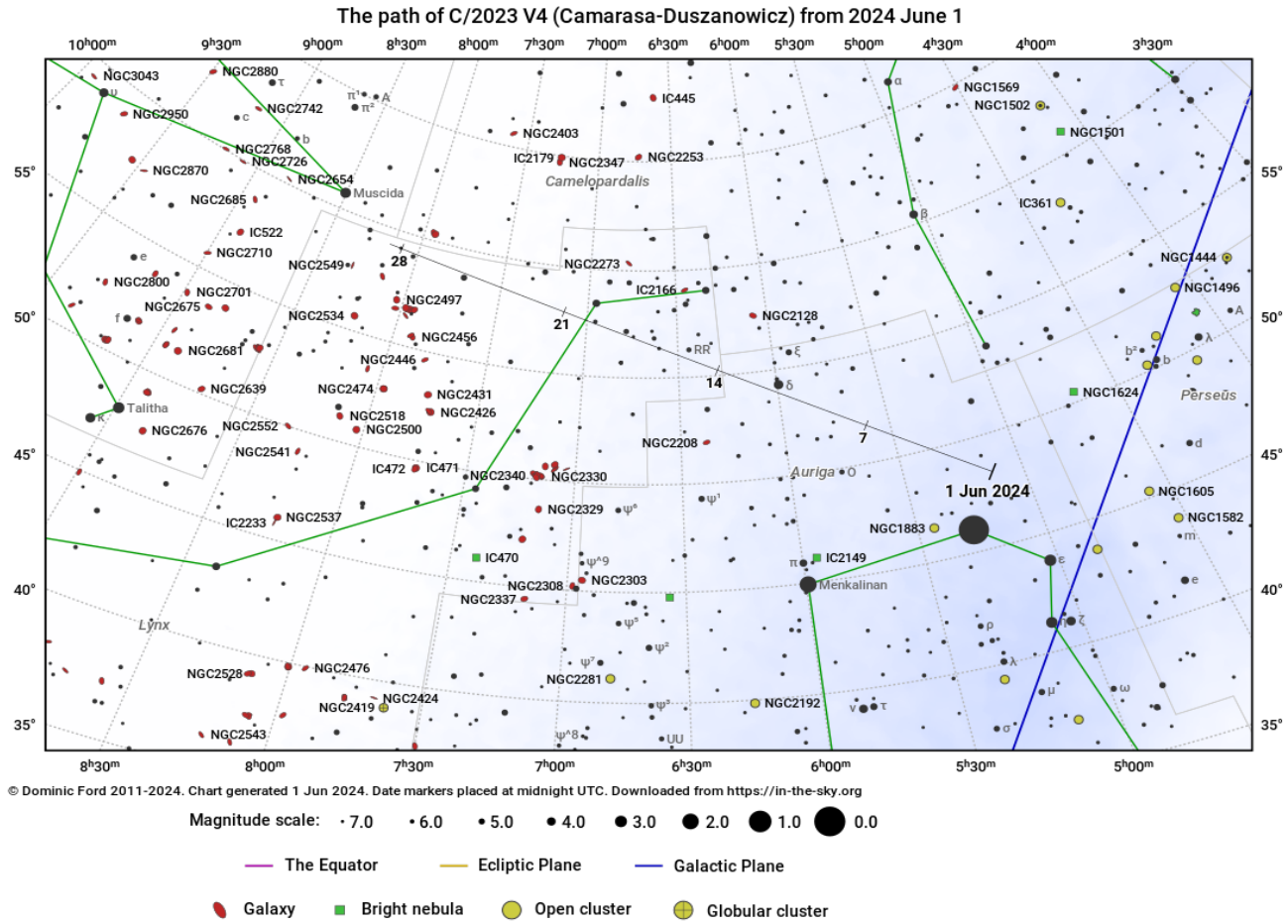


Figure 5 - Star chart for C/2023 V4 (Camarasa-Duszanowicz) for August 2024. Chart made at in-the-sky.org.