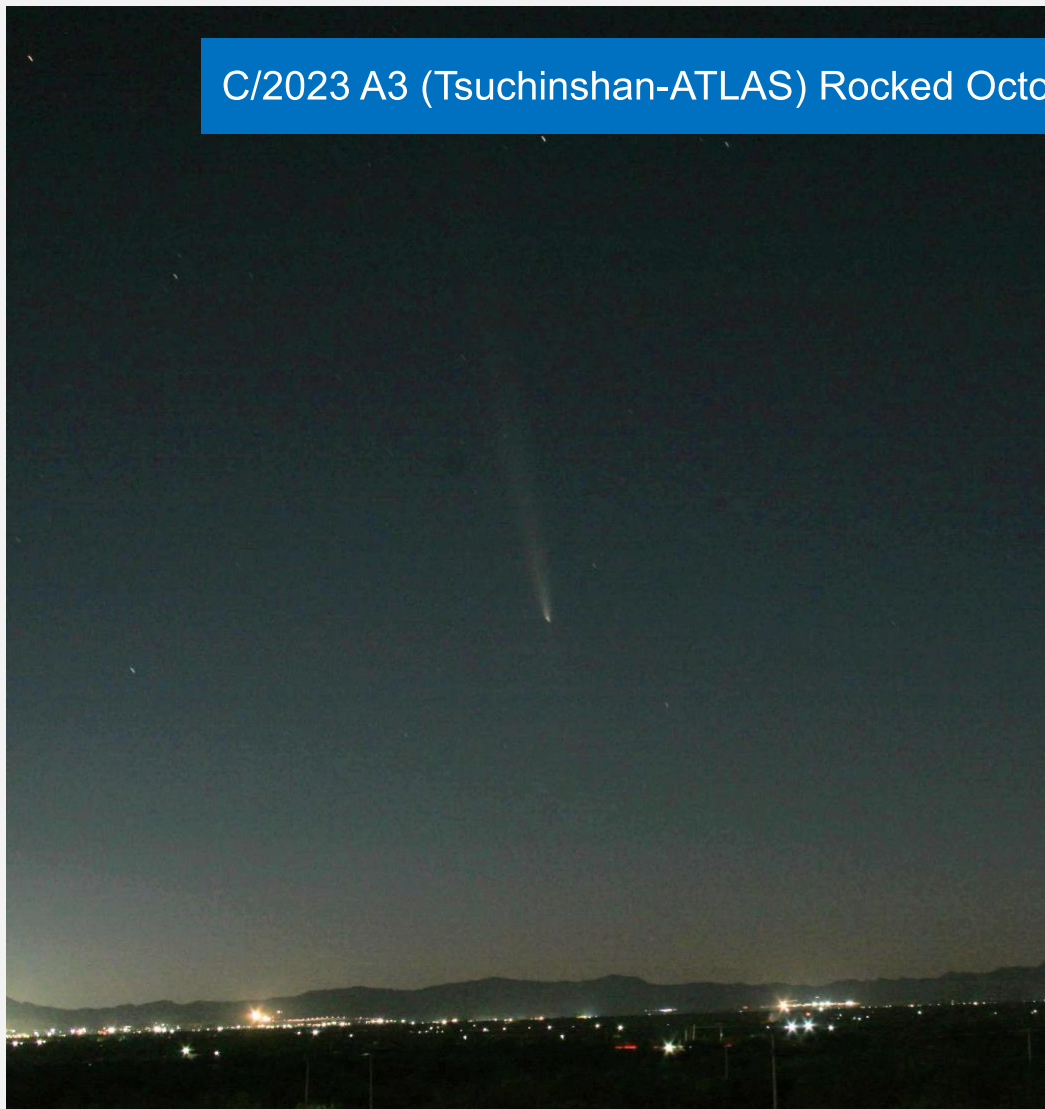


November 2024

ALPO Comet News

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

C/2023 A3 (Tsuchinshan-ATLAS) Rocked October



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

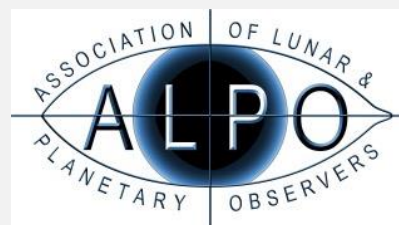


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On the Front Cover:

This image of C/2023 A3 (Tsuchinshan-ATLAS) closely portrays what the comet looked like to the naked eye in mid-October. Salvador Aguirre took the image on 20024 October 15 UT, from outside of Hermosillo, Mexico, with a Canon DSLR. In addition to the long dust tail, there is a hint of an anti-tail in the solar direction.

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/942975-alpo-comet-news-for-november-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

C/2023 A3 (Tsuchinshan-ATLAS) did not disappoint. After reaching a brilliant peak at magnitude -3 to -4, though it was only within a few degrees of the Sun at the time, the comet reappeared in the evening sky at around 0th magnitude. Though it quickly faded as it moved higher in the sky, a tail up to 20 degrees in length was visually observed. Imagers also detected the predicted anti-tail.

Tsuchinshan-ATLAS starts November in the evening sky at 6th magnitude. Since it is moving away from the Earth and Sun, it will continue to fade and should be around magnitude 9 at the end of the month.

The other comet that could have been bright this month did disappoint. Kreutz sungrazer C/2024 S1 (ATLAS) experienced a series of outbursts, presumably due to the break-up of its nucleus. Enough material survived to be imaged by the SOHO spacecraft as it closed in on perihelion, but unfortunately, nothing seems to have survived perihelion.

November will be the last month to see 13P/Olbers visually as it approaches solar conjunction. Northern hemisphere observers may be able to observe short-period comet 333P/LINEAR, which may reach 10th magnitude at the end of the month in the morning sky. While 333P/LINEAR will be a low-elevation object for southern hemisphere observers, they will have C/2024 G3 (ATLAS) to themselves. C/2024 G3 comes to perihelion in January at a close 0.09 au from the Sun. Though it will be located very close to the Sun when at its brightest, there is an outside chance that this could be a nice object from the southern hemisphere after its perihelion.

Last month, the ALPO Comets Section received 283 magnitude estimates and over 200 images of 26 comets: C/2024 S1 (ATLAS), C/2024 M1 (ATLAS), C/2024 G3 (ATLAS), C/2024 B1 (Lemmon), C/2023 A3 (Tsuchinshan-ATLAS), C/2022 QE78 (ATLAS), C/2022 N2 (PANSTARRS), C/2022 E2 (ATLAS), C/2020 V2 (ZTF), C/2020 K1 (PANSTARRS), C/2017 K2 (PANSTARRS), C/2014 UN271 (Bernardinelli-Bernstein), 487P/Siding Spring, 472P/NEAT-LINEAR, 276P/Vorobjov, 253P/PANSTARRS, 242P/Spahr, 208P/McMillian, 146P/Shoemaker-Levy, 130P/McNaught-Hughes, 89P/Russell, 54P/de Vico-Swift-NEAT, 49P/Arend-Rigaux, 43P/Wolf-Harrington, 33P/Daniel, and 13P/Olbers.

A big thanks to our recent contributors: Salvador Aguirre, Michael and Anthony Amato, Dan Bartlett, Denis Buczynski, José J. Chambó, Ed Chase, Dan Crowson, Michel Deconinck, Jose Guilherme de Souza Aguiar, Juan Jose Gonzalez Suarez, Christian Harder, Carl Hergenrother, Eliot Herman, Rik Hill, Michael Jäger, John

Maikner, Gianluca Masi, Michael Mattiazzo, Ron May, Frank J. Melillo, Jim Melka, Martin Mobberley, Mike Olason, Timothy Parsons Andrew Pearce, Michael Rosolina, Gregg Ruppel, Chris Schur, Bob Soltys, 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 > and/or Comets Section Acting Assistant Coordinator Michel Deconinck < michel.deconinck @ 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 are applied to digital observations. Though we try to keep these lightcurves up to date, observations submitted just 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)

- Nov 01 - New Moon
- Nov 09 - First Quarter Moon
- Nov 15 - Full Moon
- Nov 23 - Last Quarter Moon

Comets at Perihelion

- Nov 11 33P/Daniel [q = 2.24 au, 8.3-yr period, V ~ 17, discovered in 1909, observed at 12 returns, reached 9th magnitude in 1909, the comet was brighter back then due to a smaller perihelion distance of 1.38 au, ~3 mag outburst about 9 months after perihelion in 2001, 2 more 3-4 magnitude outbursts 7-8 months after perihelion in 2009]
- Nov 13 363P/Lemmon [q = 1.72 au, 6.8-yr period, V ~ 20, discovered in 2011, observed at 2 returns, not seen yet this time]
- Nov 16 C/2023 C2 (ATLAS) [q = 2.37 au, V ~ 12]
- Nov 17 305P/Skiff [q = 1.42 au, 10.0-yr period, V ~ 16, discovered in 2004, 2024 is the 3rd observed return]
- Nov 20 C/2024 M1 (ATLAS) [q = 1.70 au, 163-yr period, V ~ 13-14]
- Nov 28 C/2023 H1 (PANSTARRS) [q = 4.45 au, V ~ 17]
- Nov 29 333P/LINEAR [q = 1.11 au, 8.7-yr period, V ~ 9-10, discovered in 2007, this is third observed return, reached 11th magnitude in 2016]

Photo Opportunities

- Nov 13 - C/2023 (Tsuchinshan-ATLAS) passes ~1.5 degrees from large open cluster IC 4756
- Nov 14 - 333P/LINEAR passes within 1.5 deg of Leo Triplet of galaxies (NGC 3623, 3627, 3628]
- Nov 27 - 333P/LINEAR passes over 12th mag galaxy NGC 3994
- Nov 29 - 333P/LINEAR passes 40' from 10th mag galaxy NGC 4244
- Nov 29 - 333P/LINEAR passes 1.5 deg from 11th mag galaxy NGC 4151

Recent Magnitudes Contributed to the ALPO Comets Section

Comet Des	YYYY	MM	DD.DD	Mag	SC	APER	FL	POW	COMA	TAIL	ICQ	CODE	Observer Name
	(UT)								Dia	DC	LENG	PA	
								T					
C/2024 S1 (ATLAS)													
2024S1	2024	10	23.37	C	10.8	AQ	25.0L	3a180	1		0.29	251	ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	22.37	C	10.7	AQ	25.0L	3a120	1.2		0.32	253	ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	21.37	C	10.3	AQ	25.0L	3a810	1.6		0.7	255	ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	21.14	C	10.0	AQ	10.6R	5a150	2		0.5	255	ICQ XX PEA Andrew Pearce
2024S1	2024	10	20.14	C	8.8	AQ	10.6R	5a180	2.8		0.9	256	ICQ XX PEA Andrew Pearce
2024S1	2024	10	19.76	Z	8.3	U4	7.0A	3a 30	2	8			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	19.76	M	8.1	TT	7.0B	15	2	8			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	19.37	C	8.6	AQ	25.0L	3a270	3.2		0.8	258	ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	17.14	C	11.8	AQ	10.6R	5a 90	2.3				ICQ XX PEA Andrew Pearce
2024S1	2024	10	16.37	C	10.9	AQ	43.0T	6a240	1.7		5.7m	260	ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	16.14	C	11.8	AQ	10.6R	5a360	2.5		6.7m	258	ICQ XX PEA Andrew Pearce
2024S1	2024	10	13.32	M	12.0	TK	30 L	5 100	1	5			ICQ XX DES01 Jose Guilherme de Souza Aguiar
2024S1	2024	10	12.14	C	13.1	AQ	10.6R	5a360	2.6		2	m260	ICQ XX PEA Andrew Pearce
2024S1	2024	10	11.15	C	12.8	AQ	10.6R	5a360	2.5		1.4m	270	ICQ XX PEA Andrew Pearce
2024S1	2024	10	10.76	Z	12.6	U4	7.0A	3a240	2	3			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	10.15	C	12.9	AQ	10.6R	5a360	3		1.7m	261	ICQ XX PEA Andrew Pearce
2024S1	2024	10	10.13	C	12.8	AQ	10.6R	5a360	3		2.2m	261	ICQ XX PEA Andrew Pearce
2024S1	2024	10	09.15	C	12.6	AQ	10.6R	5a360	3.3				ICQ XX PEA Andrew Pearce
2024S1	2024	10	08.14	C	13.1	AQ	10.6R	5a360	2.7				ICQ XX PEA Andrew Pearce
2024S1	2024	10	06.32	M	12.1	TK	30 L	5 100	1	5/			ICQ XX DES01 Jose Guilherme de Souza Aguiar
2024S1	2024	10	05.32	M	12.2	TK	30 L	5 100	1	5			ICQ XX DES01 Jose Guilherme de Souza Aguiar
2024S1	2024	10	05.15	C	12.6	AQ	10.6R	5a360	3				ICQ XX PEA Andrew Pearce
2024S1	2024	10	04.78	Z	12.3	U4	7.0A	3a240	2	3			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	02.78	Z	12.8	U4	7.0A	3a240	2	3			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	02.32	M	12.3	TK	30 L	5 100	1	6			ICQ XX DES01 Jose Guilherme de Souza Aguiar
2024S1	2024	10	01.78	Z	13.0	U4	7.0A	3a240	2	3			ICQ XX MAT08 Michael Mattiazzo
2024S1	2024	10	01.74	xS	12.6	AQ	25.0L	5 125	0.8	3/			ICQ XX WYA Christopher Wyatt
2024S1	2024	10	01.50	Z	13.9	GG	5.0R	4a750	2				ICQ XX OLAaa Michael Olason
2024S1	2024	10	01.32	M	11.7	TK	30 L	5 100	1	5/			ICQ XX DES01 Jose Guilherme de Souza Aguiar
C/2024 M1 (ATLAS)													
2024M1	2024	10	30.68	C	15.9	AV	35.0T	5a900	0.4				ICQ XX PEA Andrew Pearce
2024M1	2024	10	28.68	C	16.2	AV	35.0T	5a900	0.5				ICQ XX PEA Andrew Pearce
2024M1	2024	10	27.68	C	15.7	AV	35.0T	5a900	0.5				ICQ XX PEA Andrew Pearce
2024M1	2024	10	26.68	C	16.5	AV	35.0T	5a900	0.4				ICQ XX PEA Andrew Pearce
2024M1	2024	10	24.69	C	16.2	AV	35.0T	5a540	0.5				ICQ XX PEA Andrew Pearce
2024M1	2024	10	23.69	C	15.9	AV	35.0T	5a540	0.5				ICQ XX PEA Andrew Pearce
2024M1	2024	10	12.72	C	15.7	AQ	35.0T	5a540	0.4				ICQ XX PEA Andrew Pearce
C/2024 G3 (ATLAS)													
2024G3	2024	10	30.39	xM	11.9	AQ	25.0L	5 125	0.6	4/			ICQ XX WYA Christopher Wyatt
2024G3	2024	10	22.40	xM	12.5	AQ	25.0L	5	0.5	5/			ICQ XX WYA Christopher Wyatt
2024G3	2024	10	22.40	xM	12.5	AQ	25.0L	5	0.5	5/			ICQ XX WYA Christopher Wyatt
2024G3	2024	10	21.76	C	12.4	AQ	36.0L	8a360	0.8		0.03	161	ICQ XX PEA Andrew Pearce
C/2024 B1 (Lemmon)													
2024B1	2024	10	29.80	S	12.8	AQ	20.3T	10 133	1.2	4			ICQ XX GON05 Juan Jose Gonzalez Suarez
2024B1	2024	10	04.79	S	15.0	TI	53.1L	242	0.6	3			ICQ XX HAR11 Christian Harder
C/2023 A3 (Tsuchinshan-ATLAS)													
2023A3	2024	10	30.73	E	6.5	S	50.0B	10		4	2	75	ICQ XX DEC Michel Deconinck
2023A3	2024	10	30.40	xM	6.0	TK	5.0B	7	6	7	3.8	72	ICQ XX WYA Christopher Wyatt
2023A3	2024	10	30.12	Z	6.2	GG	5.0R	4a240	9				ICQ XX OLAaa Michael Olason
2023A3	2024	10	29.78	B	5.9	TK	5.0B	10	4	7	4.4	70	ICQ XX GON05 Juan Jose Gonzalez Suarez
2023A3	2024	10	29.76	B	6.2	S	25.0C	10 192	2.5	6			ICQ XX DEC Michel Deconinck
2023A3	2024	10	29.74	E	6.3	S	25.0C	10 62	2	6	3	75	ICQ XX DEC Michel Deconinck
2023A3	2024	10	29.40	xM	5.9	TK	5.0B	7	7	6	3.7	73	ICQ XX WYA Christopher Wyatt
2023A3	2024	10	29.11	Z	6.0	GG	5.0R	4a240	9				ICQ XX OLAaa Michael Olason
2023A3	2024	10	28.79	B	5.8	TK	5.0B	10	4	7	4.2	70	ICQ XX GON05 Juan Jose Gonzalez Suarez
2023A3	2024	10	28.39	xM	5.4	TK	5.0B	7	10	6	4.5	74	ICQ XX WYA Christopher Wyatt
2023A3	2024	10	27.15	Z	5.2	GG	5.0R	4a150	10				ICQ XX OLAaa Michael Olason
2023A3	2024	10	27.10	M	5.6	TK	5.0B	10	4	6	0.5	70	ICQ XX HER02 Carl Hergenrother
2023A3	2024	10	26.75	S	5.8	TI	4.4B	8	6	6	3.5	73	ICQ XX HAR11 Christian Harder
2023A3	2024	10	25.93	B	5.1	TK	8.0B	20	3	5	0.5	80	ICQ XX SOU01 Willian Souza
2023A3	2024	10	25.92	M	5.2	TK	5.0B	10	3	5			ICQ XX SOU01 Willian Souza
2023A3	2024	10	25.40	xS	4.6	TK	E		22	3/	6.2	74	ICQ XX WYA Christopher Wyatt
2023A3	2024	10	25.40	xM	4.8	TK	5.0B	7	11	6	6	74	ICQ XX WYA Christopher Wyatt
2023A3	2024	10	25.10	M	5.2	TK	5.0B	10	3	6/	2	75	ICQ XX HER02 Carl Hergenrother
2023A3	2024	10	24.75	S	5.5	TI	4.4B	8	7	6/	3.3	76	ICQ XX HAR11 Christian Harder
2023A3	2024	10	24.11	M	5.0	TK	5.0B	10	3	6/	3		ICQ XX HER02 Carl Hergenrother

2023A3	2024	10	23.81	B	4.8	TK	5.0B	10	4	7	7	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	23.80	I	4.6	TK	E	1	3	8	5	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	23.74	S	5.5	TI	4.4B	8	6	7	4.6	75	ICQ	XX	HAR11	Christian Harder	
2023A3	2024	10	23.11	M	4.8	TK	5.0B	10	3	6/	5	70	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	22.77	S	5.1	TI	4.4B	8	6	6/	6.5	75	ICQ	XX	HAR11	Christian Harder	
2023A3	2024	10	22.75	S	4.7	TK	2.5B	4	8	15	7	3.2	72		PIL01	Uwe Pilz	
2023A3	2024	10	22.39	xM	4.0	TK	E	21	6	15.5		77	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	22.38	xM	4.6	TK	5.0B	7	8	6/	12	77	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	22.09	M	4.8	TK	5.0B	10	3	6/	5	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	22.07	I	4.6	AC	5.0B	7					ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	21.92	M	4.5	TK	5.0B	10	3	7			ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	21.74	I	4.5	S	5.0B	10		7	5	75	ICQ	XX	DEC	Michell Deconinck	
2023A3	2024	10	21.39	xM	4.1	TK	5.0B	7	7.5	6			ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	21.08	M	4.6	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	21.07	S	4.6	AC	5.0B	7		3/	2	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	20.80	I	4.3	TK	E	1	3	8	13	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	20.75	I	4.2	S	5.0B	10		7	260	m	75	ICQ	XX	DEC	Michel Deconinck
2023A3	2024	10	20.75	C	5.0	AQ	10.6R	5a	90	13	1.3	73	ICQ	XX	PEA	Andrew Pearce	
2023A3	2024	10	20.74	I	4.2	S	12.0B	5	25	7	30	m	75	ICQ	XX	DEC	Michel Deconinck
2023A3	2024	10	20.38	xM	4.2	TK	5.0B	7	13	6			ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	20.38	xM	3.6	TK	E	20	6	15		74	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	20.09	M	4.8	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	20.07	I	4.5	AC	5.0B	7		4/	2	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	19.79	M	4.5	TI	4.4B	8	4	6/	2	80	ICQ	XX	HAR11	Christian Harder	
2023A3	2024	10	19.38	xM	3.2	TK	E	20	6	19		73	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	19.07	I	4.0	AC	5.0B	7		8	2.5	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	18.74	M	4.2	TI	4.4B	8		8	5	80	ICQ	XX	HAR11	Christian Harder	
2023A3	2024	10	18.10	I	3.7	TK	0.0E	1		8	8		ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	18.07	M	3.8	TK	5.0B	10	3	7	6		ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	18.07	I	4.0	AC	5.0B	7		8	2.5	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	17.89	M	3.4	TK	8 B	11	3	6	1.2		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar	
2023A3	2024	10	17.80	I	3.8	TK	0.0E	1	3	8	11	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	17.07	I	3.5	AC	5.0B	7		8/	3	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	16.74	M	3.5	TI	5.0B	10	6	8	6	70	ICQ	XX	HAR11	Christian Harder	
2023A3	2024	10	16.09	sM	3.1	TK	5.0B	10	3	6/	10	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	16.09	sI	3.1	TK	E	1		8	10	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	16.07	I	2.5	AC	5.0B	7		8	3.5	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	15.74	S	2.0	TK	0.7E	3	1	6	7	5	73		PIL01	Uwe Pilz	
2023A3	2024	10	15.09	sM	2.9	TK	5.0B	10	5	6/	15	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	15.09	sI	2.7	TK	0.0E	1		7/	18	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	15.08	I	2.5	AC	5.0B	7		8	7	90	ICQ		AGU01	Salvador Aguirre	
2023A3	2024	10	14.08	sM	2.1	TK	5.0B	10	5	6/	8	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	14.08	sI	1.9	TK	0.0E	1		7/	8	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	14.07	I	2.5	AC	5.0B	7		8	3	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	13.75	I	1.5	TK	12.5B	5	25	30	7	4	80	ICQ	XX	DEC	Michel Deconinck
2023A3	2024	10	13.74	I	1.5	TK	1.0E	1		7	8	80	ICQ	XX	DEC	Michel Deconinck	
2023A3	2024	10	13.08	sM	1.2	TK	0.0E	1		7	4	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	13.08	sI	1.4	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	12.78	\$I	0.3	TK	E	1	3	8	2.2	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	12.06	sM	0.4:	TK	5.0B	10	4	6	0.5	50	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	11.74	I	-2.0	TK	7.0B	10		5			ICQ	XX	DEC	Michel Deconinck	
2023A3	2024	10	05.53	aM	0.4	TK	5.0B	10	2	7/	0.1	260	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	04.53	aM	0.7	TK	5.0B	10	2	7/	0.5	260	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	03.77	aM	1.1	TK	5.0B	7	3	8	21	257	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	03.52	aM	1.2	TK	5.0B	10	2	7/	1	260	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	02.79	\$M	1.8	TT	4.0B	8	4	7	19	256	ICQ	XX	MAT08	Michael Mattiazzo	
2023A3	2024	10	02.79	sI	1.6	TT	E	1		15		256	ICQ	XX	MAT08	Michael Mattiazzo	
2023A3	2024	10	02.52	aM	1.5	TK	5.0B	10	2	8	2.5	260	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	02.52	aI	1.2	TK	E	1	3	9	1	260	ICQ	XX	HER02	Carl Hergenrother	
2023A3	2024	10	02.33	&M	2.0	TK	8 B	11	4	6/	1.8		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar	
2023A3	2024	10	02.33	M	1.8	TK	8.0B	20	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	02.33	M	1.8	TK	5.0B	10	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	02.33	I	1.5:	TK	0.7E						ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	01.78	M	2.1	TT	4.0B	8	4	7	15	255	ICQ	XX	MAT08	Michael Mattiazzo	
2023A3	2024	10	01.78	I	1.9	TT	E	1		10		255	ICQ	XX	MAT08	Michael Mattiazzo	
2023A3	2024	10	01.77	xM	2.0	TK	5.0B	7	4	7	3	257	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	01.77	xM	2.0	TK	E	5		8	13.5	257	ICQ	XX	WYA	Christopher Wyatt	
2023A3	2024	10	01.53	Z	2.4	GG	5.0R	4a016	5				ICQ	XX	OLAaa	Michael Olason	
2023A3	2024	10	01.33	&M	2.2	TK	8 B	11	4	6	1.6		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar	
2023A3	2024	10	01.33	M	2.1	TK	8.0B	20	3	8	2	260	ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	01.33	M	2.1	TK	5.0B	10	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza	
2023A3	2024	10	01.33	I	2.0	TK	0.7E						ICQ	XX	SOU01	Willian Souza	
2023A3	2024	09	30.33	&M	2.4	TK	8 B	11	4	6/	1.5		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar	
C/2022 QE78 (ATLAS)																	
2022QE78	2024	10	30.70	C	16.0	AV	35.0T	5a900	0.4			0.7m265	ICQ	XX	PEA	Andrew Pearce	
2022QE78	2024	10	29.71	C	15.9	AV	35.0T	5a900	0.4				ICQ	XX	PEA	Andrew Pearce	

2022QE782024	10	28.71	C	15.0	AV	35.0T	5a900	0.4		ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	27.71	C	15.6	AV	35.0T	5a900	0.6		ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	26.71	C	15.9	AV	35.0T	5a900	0.5	0.7m252	ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	24.72	C	15.7	AV	35.0T	5a540	0.5		ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	23.72	C	15.9	AV	35.0T	5a540	0.6		ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	12.75	C	15.9	AQ	35.0T	5a540	0.4		ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	10.75	C	15.8	AQ	35.0T	5a540	0.6	0.2m247	ICQ	XX	PEA	Andrew Pearce	
2022QE782024	10	07.76	C	15.7	AQ	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce	
C/2022 N2 (PANSTARRS)														
2022N2	2024	10	30.62	C	15.4	AV	35.0T	5a360	0.8	0.8m242	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	29.52	C	13.7	AV	35.0T	5a360	0.5	0.7m232	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	28.51	C	15.0	AV	35.0T	5a360	0.8	1.1m232	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	26.51	C	15.1	AV	35.0T	5a360	0.9	1 m248	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	25.57	C	15.3	AV	35.0T	5a240	0.8	1 m243	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	24.50	C	15.5	AV	35.0T	5a360	0.6		ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	23.50	C	15.0	AV	35.0T	5a360	1	0.4m253	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	10.56	C	14.9	AQ	35.0T	5a360	1.2	1.1m245	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	06.50	C	14.7	AQ	35.0T	5a360	0.8	0.8m241	ICQ	XX	PEA	Andrew Pearce
2022N2	2024	10	06.50	C	14.7	AQ	35.0T	5a360	0.8	0.8m241	ICQ	XX	PEA	Andrew Pearce
C/2022 E2 (ATLAS)														
2022E2	2024	10	29.84	S	11.6	AQ	20.3T10	133	1.3	3/	ICQ	XX	GON05	Juan Jose Gonzalez Suarez
2022E2	2024	10	26.88	S	13.9	TI	53.1L	194	0.7	4	ICQ	XX	HAR11	Christian Harder
2022E2	2024	10	11.92	S	12.5:TI	29.8L	108	1.2	3		ICQ	XX	HAR11	Christian Harder
2022E2	2024	10	06.97	S	12.7	TI	29.8L	1	1	3	ICQ	XX	HAR11	Christian Harder
2022E2	2024	10	05.94	S	13.1	TI	53.1L	162	1	3/	ICQ	XX	HAR11	Christian Harder
2022E2	2024	10	04.93	S	13.0:TI	53.1L	162	1.1	1.1	3/	ICQ	XX	HAR11	Christian Harder
C/2020 V2 (ZTF)														
2020V2	2024	10	30.61	C	15.1	AV	35.0T	5a360	0.8		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	29.51	C	15.0	AV	35.0T	5a360	1	0.5m 70	ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	27.50	C	15.3	AV	35.0T	5a360	1.1		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	26.52	C	14.9	AV	35.0T	5a360	1.1		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	25.56	C	14.9	AV	35.0T	5a360	0.9		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	24.53	C	15.3	AV	35.0T	5a360	0.8		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	23.53	C	14.9	AV	35.0T	5a360	1		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	15.52	C	14.5	AQ	35.0T	5a120	0.7		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	12.62	C	14.6	AQ	35.0T	5a360	1.2		ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	10.58	C	14.5	AQ	35.0T	5a360	1.4	1.7m 64	ICQ	XX	PEA	Andrew Pearce
2020V2	2024	10	06.68	C	15.1	AQ	35.0T	5a360	1.1		ICQ	XX	PEA	Andrew Pearce
C/2020 K1 (PANSTARRS)														
2020K1	2024	10	30.68	C	16.6	AV	35.0T	5A080	0.5		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	29.70	C	16.2	AV	35.0T	5A080	0.5		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	28.65	C	17.1	AV	35.0T	5A080	0.2		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	26.65	C	16.7	AV	35.0T	5a900	0.4		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	23.66	C	16.1	AV	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	10.70	C	16.5	AQ	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce
2020K1	2024	10	07.70	C	16.2	AQ	35.0T	5a540	0.9		ICQ	XX	PEA	Andrew Pearce
C/2017 K2 (PANSTARRS)														
2017K2	2024	10	30.73	C	16.0	AV	35.0T	5a900	0.4		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	29.74	C	16.0	AV	35.0T	5a900	0.5		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	28.74	C	15.0	AV	35.0T	5a900	0.3		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	27.74	C	15.6	AV	35.0T	5a900	0.6		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	26.74	C	15.8	AV	35.0T	5a900	0.5		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	24.75	C	15.9	AV	35.0T	5a900	0.5		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	23.75	C	15.5	AV	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	12.78	C	15.9	AQ	35.0T	5a540	0.6		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	10.78	C	15.2	AQ	35.0T	5a540	0.5		ICQ	XX	PEA	Andrew Pearce
2017K2	2024	10	07.79	C	15.1	AQ	35.0T	5a540	0.9		ICQ	XX	PEA	Andrew Pearce
C/2014 UNR271 (Bernardinelli-Bernstein)														
2014UNR12024	10	30.67	C	16.3	AV	35.0T	5a900	0.6		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	29.67	C	16.1	AV	35.0T	5a900	0.8		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	28.56	C	16.0	AV	35.0T	5a900	0.9		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	27.53	C	16.1	AV	35.0T	5a720	0.6		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	26.53	C	16.1	AV	35.0T	5a900	0.8		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	23.54	C	15.9	AV	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	12.64	C	16.5	AQ	35.0T	5a540	0.6		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	10.59	C	16.0	AQ	35.0T	5a540	0.8		ICQ	XX	PEA	Andrew Pearce	
2014UNR12024	10	07.54	C	15.8	AQ	35.0T	5a540	0.9		ICQ	XX	PEA	Andrew Pearce	
487P/Siding Spring														
487	2024	10	27.77	C	15.6	AV	35.0T	5a540	0.5		ICQ	XX	PEA	Andrew Pearce
487	2024	10	26.75	C	15.8	AV	35.0T	5a540	0.5	0.2m255	ICQ	XX	PEA	Andrew Pearce
487	2024	10	23.74	C	16.4	AV	35.0T	5a540	0.8	0.5m240	ICQ	XX	PEA	Andrew Pearce
487	2024	10	14.78	C	15.6	AQ	35.0T	5a180	0.4		ICQ	XX	PEA	Andrew Pearce
487	2024	10	12.73	C	16.0	AQ	35.0T	5a540	0.5	0.2m247	ICQ	XX	PEA	Andrew Pearce
472P/NEAT-LINEAR														
472	2024	10	30.77	C	15.4	AV	35.0T	5a900	0.5		ICQ	XX	PEA	Andrew Pearce
472	2024	10	29.76	C	16.3	AV	35.0T	5a900	0.5		ICQ	XX	PEA	Andrew Pearce

472	2024 10 28.73	C 16.2 AV 35.0T 5a900	0.5		ICQ XX PEA	Andrew Pearce
472	2024 10 27.74	C 16.4 AV 35.0T 5a540	0.5		ICQ XX PEA	Andrew Pearce
472	2024 10 26.73	C 16.2 AV 35.0T 5a540	0.7		ICQ XX PEA	Andrew Pearce
472	2024 10 24.76	C 15.8 AV 35.0T 5a540	0.6		ICQ XX PEA	Andrew Pearce
472	2024 10 23.75	C 15.8 AV 35.0T 5a540	0.6		ICQ XX PEA	Andrew Pearce
472	2024 10 12.77	C 15.8 AQ 35.0T 5a540	0.5		ICQ XX PEA	Andrew Pearce
472	2024 10 07.78	C 16.8 AQ 35.0T 5a540	0.6		ICQ XX PEA	Andrew Pearce
276P/Vorobjov						
276	2024 10 30.59	C 17.4 AV 35.0T 5A260	0.4	1.4m270	ICQ XX PEA	Andrew Pearce
276	2024 10 29.64	C 17.6 AV 35.0T 5A080	0.4	2.7m271	ICQ XX PEA	Andrew Pearce
276	2024 10 27.62	C 17.3 AV 35.0T 5A080	0.4	0.4m275	ICQ XX PEA	Andrew Pearce
253P/PANSTARRS						
253	2024 10 30.65	C 16.8 AV 35.0T 5A080	0.6		ICQ XX PEA	Andrew Pearce
253	2024 10 29.60	C 16.9 AV 35.0T 5A080	0.6		ICQ XX PEA	Andrew Pearce
253	2024 10 28.54	C 16.8 AV 35.0T 5A080	0.7		ICQ XX PEA	Andrew Pearce
253	2024 10 27.64	C 16.4 AV 35.0T 5a720	0.6		ICQ XX PEA	Andrew Pearce
253	2024 10 26.56	C 16.6 AV 35.0T 5a720	0.7		ICQ XX PEA	Andrew Pearce
253	2024 10 26.56	C 16.6 AV 35.0T 5a720	0.7		ICQ XX PEA	Andrew Pearce
253	2024 10 24.55	C 16.8 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
253	2024 10 23.52	C 16.6 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
253	2024 10 12.60	C 16.2 AQ 35.0T 5a600	0.8	0.2m258	ICQ XX PEA	Andrew Pearce
253	2024 10 10.57	C 16.3 AQ 35.0T 5a600	0.6	0.2m259	ICQ XX PEA	Andrew Pearce
253	2024 10 05.52	C 16.0 AQ 35.0T 5a480	0.9		ICQ XX PEA	Andrew Pearce
242P/Spahr						
242	2024 10 30.59	C 18.3 AV 35.0T 5A080	0.4		ICQ XX PEA	Andrew Pearce
208P/McMillian						
208	2024 10 30.53	C 18.8 AV 35.0T 5A080	0.4		ICQ XX PEA	Andrew Pearce
146P/Shoemaker-Levy						
146	2024 10 12.83	C 17.0 AQ 35.0T 5a540	0.5		ICQ XX PEA	Andrew Pearce
146	2024 10 07.83	C 16.7 AQ 35.0T 5a540	0.5		ICQ XX PEA	Andrew Pearce
130P/McNaught-Hughes						
130	2024 10 30.56	C 15.8 AV 35.0T 5a900	0.6	5.9m247	ICQ XX PEA	Andrew Pearce
130	2024 10 29.63	C 15.5 AV 35.0T 5a720	1	8.7m248	ICQ XX PEA	Andrew Pearce
130	2024 10 28.56	C 15.5 AV 35.0T 5a720	1.1	3.4m254	ICQ XX PEA	Andrew Pearce
130	2024 10 27.55	C 16.3 AV 35.0T 5a540	0.6		ICQ XX PEA	Andrew Pearce
130	2024 10 26.54	C 15.5 AV 35.0T 5a720	1.2	5.5m249	ICQ XX PEA	Andrew Pearce
130	2024 10 24.57	C 15.8 AV 35.0T 5a720	0.7	0.5m260	ICQ XX PEA	Andrew Pearce
130	2024 10 23.55	C 15.2 AV 35.0T 5a540	1	2.6m245	ICQ XX PEA	Andrew Pearce
130	2024 10 15.58	C 15.6 AQ 35.0T 5a540	0.6		ICQ XX PEA	Andrew Pearce
130	2024 10 10.60	C 15.7 AQ 35.0T 5a540	0.8	4.6m248	ICQ XX PEA	Andrew Pearce
130	2024 10 07.61	C 15.6 AQ 35.0T 5a540	1.1	4.4m247	ICQ XX PEA	Andrew Pearce
130	2024 10 06.67	C 15.1 AQ 35.0T 5a540	1.1	0.4m262	ICQ XX PEA	Andrew Pearce
89P/Russell						
89	2024 10 30.63	C 17.8 AV 35.0T 5A080	0.5		ICQ XX PEA	Andrew Pearce
89	2024 10 29.61	C 17.7 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
89	2024 10 28.53	C 17.8 AV 35.0T 5a720	0.6		ICQ XX PEA	Andrew Pearce
89	2024 10 27.52	C 17.2 AV 35.0T 5a720	0.4		ICQ XX PEA	Andrew Pearce
89	2024 10 26.51	C 17.5 AV 35.0T 5a720	0.6		ICQ XX PEA	Andrew Pearce
89	2024 10 23.51	C 17.0 AV 35.0T 5a600	0.6		ICQ XX PEA	Andrew Pearce
89	2024 10 12.62	C 17.0 AQ 35.0T 5a600	0.6		ICQ XX PEA	Andrew Pearce
89	2024 10 10.57	C 17.1 AQ 35.0T 5a600	0.6		ICQ XX PEA	Andrew Pearce
89	2024 10 06.51	C 16.9 AQ 35.0T 5a600	0.9		ICQ XX PEA	Andrew Pearce
89	2024 10 06.51	C 16.9 AQ 35.0T 5a600	0.9		ICQ XX PEA	Andrew Pearce
54P/de Vico-Swift-NEAT						
54	2024 10 30.52	C 19.2 AV 35.0T 5A080	0.3		ICQ XX PEA	Andrew Pearce
54	2024 10 29.59	C 18.2 AV 35.0T 5A080	0.5		ICQ XX PEA	Andrew Pearce
54	2024 10 28.52	C 18.2 AV 35.0T 5A080	0.5		ICQ XX PEA	Andrew Pearce
49P/Arend-Rigaux						
49	2024 10 30.59	C 17.6 AV 35.0T 5A080	0.4		ICQ XX PEA	Andrew Pearce
49	2024 10 29.53	C 17.9 AV 35.0T 5A080	0.3		ICQ XX PEA	Andrew Pearce
43P/Wolf-Harrington						
43	2024 10 30.57	C 16.4 AV 35.0T 5a900	0.5	0.7m253	ICQ XX PEA	Andrew Pearce
43	2024 10 29.63	C 16.5 AV 35.0T 5a720	0.5	0.5m257	ICQ XX PEA	Andrew Pearce
43	2024 10 28.62	C 16.5 AV 35.0T 5a720	0.5	0.7m258	ICQ XX PEA	Andrew Pearce
43	2024 10 27.61	C 16.6 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
43	2024 10 26.58	C 16.6 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
43	2024 10 24.59	C 16.6 AV 35.0T 5a720	0.5		ICQ XX PEA	Andrew Pearce
43	2024 10 23.60	C 16.5 AV 35.0T 5a540	0.8	0.7m253	ICQ XX PEA	Andrew Pearce
43	2024 10 15.62	C 16.5 AQ 35.0T 5a540	0.4		ICQ XX PEA	Andrew Pearce
43	2024 10 12.63	C 16.8 AQ 35.0T 5a540	0.8		ICQ XX PEA	Andrew Pearce
43	2024 10 10.64	C 16.9 AQ 35.0T 5a540	0.5	0.3m253	ICQ XX PEA	Andrew Pearce
43	2024 10 07.65	C 16.5 AQ 35.0T 5a540	0.8	0.5m260	ICQ XX PEA	Andrew Pearce
43	2024 10 06.67	C 16.7 AQ 35.0T 5a540	0.8		ICQ XX PEA	Andrew Pearce
33P/Daniel						
33	2024 10 08.37	C 19.2 BG 30.5H 4C000			ICQ XX MAI01	John Maikner
13P/Olbers						

13	2024	10	27.09	Z	9.9	GG	5.0R	4a300	4		ICQ	XX	OLAaa	Michael	Olason		
13	2024	10	20.79	S	8.9	TK	20.3T10	100	4	4	ICQ	XX	GON05	Juan	Jose	Gonzalez	Suarez
13	2024	10	06.77	S	9.8	TI	53.1L	139	2.5	3	ICQ	XX	HAR11	Christian	Harder		
13	2024	10	04.76	S	9.6	TI	53.1L	139	3	3	ICQ	XX	HAR11	Christian	Harder		
13	2024	10	03.77	S	9.3	TI	25.2L	78	4	3	ICQ	XX	HAR11	Christian	Harder		

P/2024 T2 (Rankin) – P/2024 T2 is one of three comets discovered by David Rankin of the University of Arizona's Catalina Sky Survey in recent weeks. David has 14 comets bearing his name. This one was found on 2024 October 4, at 20th magnitude with the Mount Lemmon 1.5-m. It arrives at perihelion on 2024 December 7, at 1.98 au, and is expected to peak at 19th magnitude. Its orbital period is 15.9 +/- 1.6 years. [CBET 5460, MPEC 2024-U16]

P/2024 T1 (Rankin) – P/2024 T1 was also a David Rankin find with discovery observations on October 2 at 19th magnitude with the Mount Lemmon 1.5-m. The comet has already passed its 2024 September 30 perihelion at 2.29 au. It should peak at 18th magnitude in December when it is close to opposition. It has an orbital period of 17.4 +/- 0.3 years. [CBET 5455, MPEC 2024-T181]

P/2024 S3 = P/2010 A3 (Hill) – The Pan-STARRS1 1.8-m Ritchey-Chretien reflector at Haleakala independently recovered P/2010 A3 (Hill) on 2024 October 7 at 20th magnitude. With an orbital period of 15.1 years, this is this comet's first return since its discovery apparition. It should peak at 17th magnitude as it approaches perihelion on 2025 March 10 at 1.62 au. [CBET 5466]

P/2024 S2 (Rankin) – David Rankin made this discovery not as part of the Catalina Sky Survey or one of their telescopes but with his private observatory and 0.28-m f/2.2 astrograph. P/2024 S2 was 17th magnitude when discovered on 2024 September 30. Perihelion was on 2024 September 15, at 2.05 au. The comet will only get a little brighter this return. It has an orbital period of ~11.7 years. [CBET 5457, MPEC 2024-T259]

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-U268)

C/2023 A3 (Tsuchinshan-ATLAS)
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2024 Sept. 27.74204 TT Rudenko
q 0.3914290 (2000.0) P Q
z -0.0002518 Peri. 308.49210 +0.36143372 +0.90083585
+/-0.0000003 Node 21.55932 +0.91853248 -0.29968132
e 1.0000986 Incl. 139.11072 -0.16019907 +0.31414309
From 5865 observations 2022 Apr. 9-2024 Oct. 30, mean residual 0".6.
1/a(orig) = -0.000237 AU** -1, 1/a(fut) = -0.000209 AU** -1.

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

C/2023 A3 (Tsuchinshan-ATLAS)									Max El (deg)	
Date	R.A.	Decl.	r	d	Elong	Const	Mag	40N	40S	
2024-Nov-01	18 00	+03 44	0.926	0.978	56E	Oph	6.1	34	9	
2024-Nov-06	18 18	+03 52	1.022	1.152	56E	Oph	6.8	35	7	
2024-Nov-11	18 32	+03 58	1.115	1.324	55E	Ser	7.4	35	4	
2024-Nov-16	18 43	+04 04	1.207	1.491	53E	Ser	8.0	34	1	
2024-Nov-21	18 53	+04 11	1.297	1.653	51E	Ser	8.5	33	0	
2024-Nov-26	19 01	+04 19	1.386	1.808	49E	Aql	8.9	31	0	
2024-Dec-01	19 08	+04 29	1.472	1.958	46E	Aql	9.3	29	0	
2024-Dec-06	19 14	+04 41	1.557	2.101	44E	Aql	9.7	27	0	

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

m1 = -16.6 + 5 log d + 35.0 log r + dust phase_function [Through T-650 days]
m1 = 0.2 + 5 log d + 15.7 log r + dust phase_function [Between T-650 and T-309 days]
m1 = 5.3 + 5 log d + 8.4 log r + dust phase_function [Between T-309 and T-70 days]
m1 = 5.7 + 5 log d + 6.7 log r + dust phase_function [Between T-70 days and perihelion]
m1 = 6.4 + 5 log d + 8.5 log r + dust phase_function [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	Mag	SC	APER	FL	POW	COMA		TAIL		ICQ	CODE	Observer Name
										Dia	DC	LENG	PA			
2023A3	2024	10	30	73	E	6.5	S	50.0B	10		4	2	75	ICQ XX DEC	Michel Deconinck	
2023A3	2024	10	30	40	xM	6.0	TK	5.0B	7	6	7	3.8	72	ICQ XX WYA	Christopher Wyatt	
2023A3	2024	10	30	12	Z	6.2	GG	5.0R 4a240	9					ICQ XX OLAaa	Michael Olason	
2023A3	2024	10	29	78	B	5.9	TK	5.0B	10	4	7	4.4	70	ICQ XX GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	29	76	B	6.2	S	25.0C10 192	2.5	6				ICQ XX DEC	Michel Deconinck	
2023A3	2024	10	29	74	E	6.3	S	25.0C10 62	2	6	3		75	ICQ XX DEC	Michel Deconinck	
2023A3	2024	10	29	40	xM	5.9	TK	5.0B	7	7	6	3.7	73	ICQ XX WYA	Christopher Wyatt	
2023A3	2024	10	29	11	Z	6.0	GG	5.0R 4a240	9					ICQ XX OLAaa	Michael Olason	
2023A3	2024	10	28	79	B	5.8	TK	5.0B	10	4	7	4.2	70	ICQ XX GON05	Juan Jose Gonzalez Suarez	
2023A3	2024	10	28	39	xM	5.4	TK	5.0B	7	10	6	4.5	74	ICQ XX WYA	Christopher Wyatt	
2023A3	2024	10	27	15	Z	5.2	GG	5.0R 4a150	10					ICQ XX OLAaa	Michael Olason	
2023A3	2024	10	27	10	M	5.6	TK	5.0B	10	4	6	0.5	70	ICQ XX HER02	Carl Hergenrother	
2023A3	2024	10	26	75	S	5.8	TI	4.4B	8	6	6	3.5	73	ICQ XX HAR11	Christian Harder	
2023A3	2024	10	25	93	B	5.1	TK	8.0B	20	3	5	0.5	80	ICQ XX SOU01	Willian Souza	
2023A3	2024	10	25	92	M	5.2	TK	5.0B	10	3	5			ICQ XX SOU01	Willian Souza	
2023A3	2024	10	25	40	xS	4.6	TK	E	22	3/	6.2		74	ICQ XX WYA	Christopher Wyatt	
2023A3	2024	10	25	40	xM	4.8	TK	5.0B	7	11	6	6		74	ICQ XX WYA	Christopher Wyatt
2023A3	2024	10	25	10	M	5.2	TK	5.0B	10	3	6/	2		75	ICQ XX HER02	Carl Hergenrother
2023A3	2024	10	24	75	S	5.5	TI	4.4B	8	7	6/	3.3		76	ICQ XX HAR11	Christian Harder
2023A3	2024	10	24	11	M	5.0	TK	5.0B	10	3	6/	3			ICQ XX HER02	Carl Hergenrother
2023A3	2024	10	23	81	B	4.8	TK	5.0B	10	4	7	7		70	ICQ XX GON05	Juan Jose Gonzalez Suarez
2023A3	2024	10	23	80	I	4.6	TK	E	1	3	8	5		70	ICQ XX GON05	Juan Jose Gonzalez Suarez
2023A3	2024	10	23	74	S	5.5	TI	4.4B	8	6	7	4.6		75	ICQ XX HAR11	Christian Harder
2023A3	2024	10	23	11	M	4.8	TK	5.0B	10	3	6/	5		70	ICQ XX HER02	Carl Hergenrother
2023A3	2024	10	22	77	S	5.1	TI	4.4B	8	6	6/	6.5		75	ICQ XX HAR11	Christian Harder
2023A3	2024	10	22	75	S	4.7	TK	2.5B 4	8	15	7	3.2		72	PIL01	Uwe Pilz
2023A3	2024	10	22	39	xM	4.0	TK	E	21	6	15.5		77	ICQ XX WYA	Christopher Wyatt	

2023A3	2024	10	22.38	xM	4.6	TK	5.0B	7	8	6/	12	77	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	22.09	M	4.8	TK	5.0B	10	3	6/	5	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	22.07	I	4.6	AC	5.0B	7					ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	21.92	M	4.5	TK	5.0B	10	3	7			ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	21.74	I	4.5	S	5.0B	10		7	5	75	ICQ	XX	DEC	Michel Deconinck		
2023A3	2024	10	21.39	xM	4.1	TK	5.0B	7	7.5	6			ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	21.08	M	4.6	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	21.07	S	4.6	AC	5.0B	7		3/	2	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	20.80	I	4.3	TK	E	1	3	8	13	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez		
2023A3	2024	10	20.75	I	4.2	S	5.0B	10		7	260	m	75	ICQ	XX	DEC	Michel Deconinck	
2023A3	2024	10	20.75	C	5.0	AQ	10.6R	5a	90	13	1.3	73	ICQ	XX	PEA	Andrew Pearce		
2023A3	2024	10	20.74	I	4.2	S	12.0B	5	25		7	30	m	75	ICQ	XX	DEC	Michel Deconinck
2023A3	2024	10	20.38	xM	4.2	TK	5.0B	7	13	6			ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	20.38	xM	3.6	TK	E		20	6	15	74	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	20.09	M	4.8	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	20.07	I	4.5	AC	5.0B	7		4/	2	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	19.79	M	4.5	TI	4.4B	8	4	6/	2	80	ICQ	XX	HAR11	Christian Harder		
2023A3	2024	10	19.38	xM	3.2	TK	E		20	6	19	73	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	19.07	I	4.0	AC	5.0B	7		8	2.5	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	18.74	M	4.2	TI	4.4B	8		8	5	80	ICQ	XX	HAR11	Christian Harder		
2023A3	2024	10	18.10	I	3.7	TK	0.0E	1		8	8		ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	18.07	M	3.8	TK	5.0B	10	3	7	6		ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	18.07	I	4.0	AC	5.0B	7		8	2.5	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	17.89	M	3.4	TK	8 B	11	3	6	1.2		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar		
2023A3	2024	10	17.80	I	3.8	TK	0.0E	1	3	8	11	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez		
2023A3	2024	10	17.07	I	3.5	AC	5.0B	7		8/	3	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	16.74	M	3.5	TI	5.0B	10	6	8	6	70	ICQ	XX	HAR11	Christian Harder		
2023A3	2024	10	16.09	sM	3.1	TK	5.0B	10	3	6/	10	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	16.09	sI	3.1	TK	E	1		8	10	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	16.07	I	2.5	AC	5.0B	7		8	3.5	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	15.74	S	2.0	TK	0.7E	3	1	6	7	5	73		PIL01	Uwe Pilz		
2023A3	2024	10	15.09	sM	2.9	TK	5.0B	10	5	6/	15	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	15.09	sI	2.7	TK	0.0E	1		7/	18	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	15.08	I	2.5	AC	5.0B	7		8	7	90	ICQ	XX	AGU01	Salvador Aguirre		
2023A3	2024	10	14.08	sM	2.1	TK	5.0B	10	5	6/	8	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	14.08	sI	1.9	TK	0.0E	1		7/	8	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	14.07	I	2.5	AC	5.0B	7		8	[3	90	ICQ	XX	AGU01	Salvador Aguirre	
2023A3	2024	10	13.75	I	1.5	TK	12.5B	5	25	30	7	4	80	ICQ	XX	DEC	Michel Deconinck	
2023A3	2024	10	13.74	I	1.5	TK	1.0E	1		7	8	80	ICQ	XX	DEC	Michel Deconinck		
2023A3	2024	10	13.08	sM	1.4	TK	5.0B	10	3	6/	6	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	13.08	sM	1.2	TK	0.0E	1		7	4	80	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	12.78	\$I	0.3	TK	E	1	3	8	2.2	70	ICQ	XX	GON05	Juan Jose Gonzalez Suarez		
2023A3	2024	10	12.06	sM	0.4	:TK	5.0B	10	4	6	0.5	50	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	11.74	I	-2.0	TK	7.0B	10		5			ICQ	XX	DEC	Michel Deconinck		
2023A3	2024	10	05.53	aM	0.4	TK	5.0B	10	2	7/	0.1	260	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	04.53	aM	0.7	TK	5.0B	10	2	7/	0.5	260	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	03.77	aM	1.1	TK	5.0B	7	3	8	21	257	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	03.52	aM	1.2	TK	5.0B	10	2	7/	1	260	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	02.79	\$M	1.8	TT	4.0B	8	4	7	19	256	ICQ	XX	MAT08	Michael Mattiazzo		
2023A3	2024	10	02.79	\$I	1.6	TT	E	1			15	256	ICQ	XX	MAT08	Michael Mattiazzo		
2023A3	2024	10	02.52	aM	1.5	TK	5.0B	10	2	8	2.5	260	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	02.52	aI	1.2	TK	E	1	3	9	1	260	ICQ	XX	HER02	Carl Hergenrother		
2023A3	2024	10	02.33	&M	2.0	TK	8 B	11	4	6/	1.8		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar		
2023A3	2024	10	02.33	M	1.8	TK	8.0B	20	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	02.33	M	1.8	TK	5.0B	10	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	02.33	I	1.5	:TK	0.7E						ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	01.78	M	2.1	TT	4.0B	8	4	7	15	255	ICQ	XX	MAT08	Michael Mattiazzo		
2023A3	2024	10	01.78	I	1.9	TT	E	1			10	255	ICQ	XX	MAT08	Michael Mattiazzo		
2023A3	2024	10	01.77	xM	2.0	TK	5.0B	7	4	7	3	257	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	01.77	xM	2.0	TK	E	5		8	13.5	257	ICQ	XX	WYA	Christopher Wyatt		
2023A3	2024	10	01.53	Z	2.4	GG	5.0R	4a016	5				ICQ	XX	OLAaa	Michael Olason		
2023A3	2024	10	01.33	&M	2.2	TK	8 B	11	4	6	1.6		ICQ	XX	DES01	Jose Guilherme de Souza Aguiar		
2023A3	2024	10	01.33	M	2.1	TK	8.0B	20	3	8	2	260	ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	01.33	M	2.1	TK	5.0B	10	3	8	1.5	260	ICQ	XX	SOU01	Willian Souza		
2023A3	2024	10	01.33	I	2.0	TK	0.7E						ICQ	XX	SOU01	Willian Souza		

C/2023 A3 (Tsuchinshan-ATLAS) did not disappoint and became the best comet since C/2020 F3 (NEOWISE) in 2020.

At the start of October, Tsuchinshan-ATLAS was 2nd magnitude with a 10-20 degree long tail. By the 5th, it was being reported as bright as 0th magnitude, but due to a rapidly shrinking solar elongation, it was soon lost to visual observation. Images continued to pick up the comet as it neared solar conjunction, but the best view was from the SOHO LASCO coronagraph, which watched the comet pass 3 degrees from the Sun on the 9th. Due to a large phase angle and dust forward scattering causing several magnitudes of enhanced brightness, the comet peaked between -3 and -4 magnitude. After conjunction, the comet rocketed into the evening sky, where it was

again picked up as bright as 0th magnitude. Even in a bright moonlit sky, a long ghostly tail up to 20 degrees was again observed.

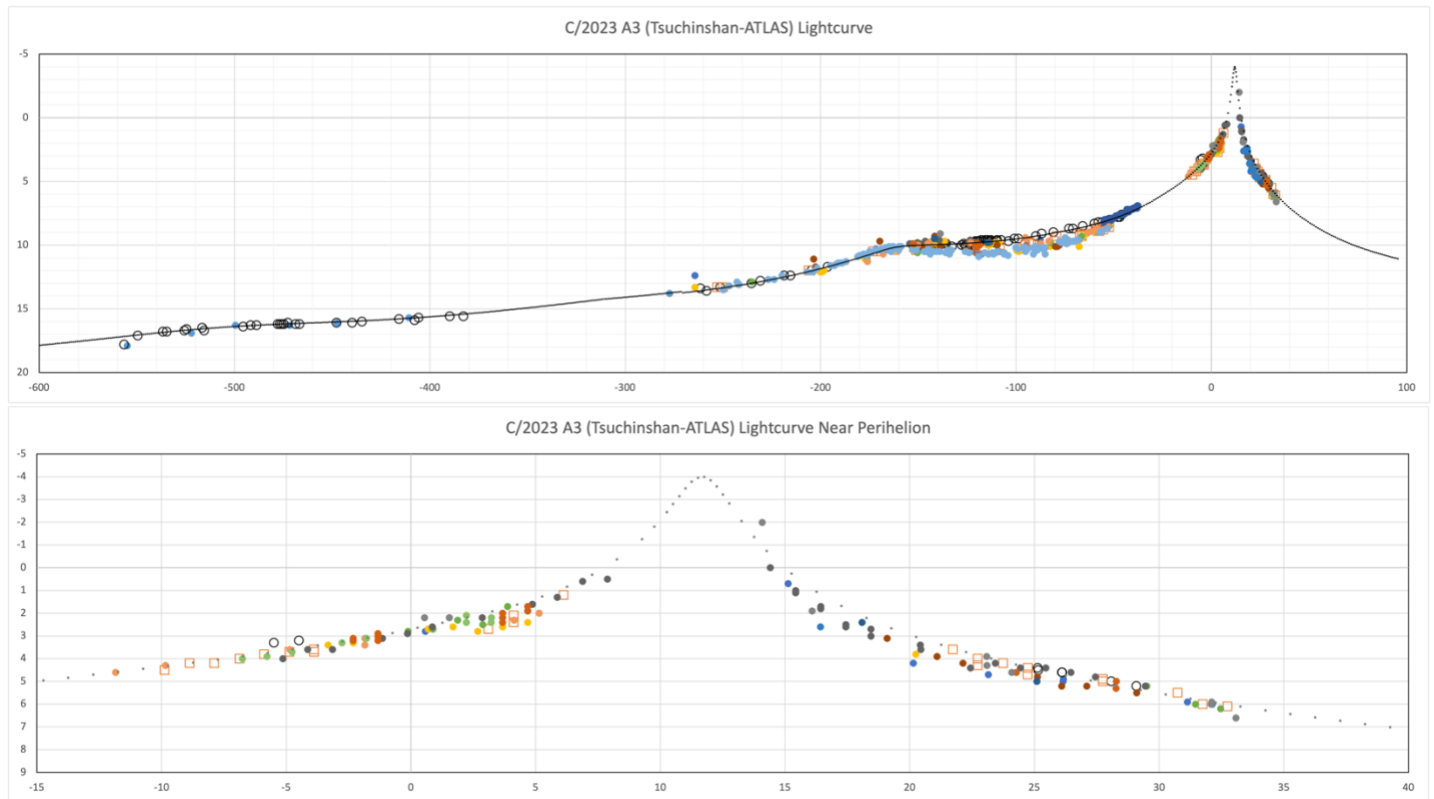


Figure 2 - Lightcurve of C/2023 A3 from data submitted to the ALPO Comets Section and photometry from Thomas Lehmann & the STEREO spacecraft.

At the end of October, Tsuchinshan-ATLAS dimmed to 6th magnitude, though still displaying several degrees of tail. As has been the case since it reappeared in the evening sky, further dimming is expected as the comet moves away from the Sun (0.93 to 1.42 au) and Earth (0.98 to 1.96 au). Our prediction has the comet at magnitude 6.1 on the 1st, magnitude 7.0 on the 6th, 8.0 on the 14th, 9.0 on the 25th, and 9.3 at the end of the month.

The comet remains well placed for northern hemisphere observers in the evening sky as it moves through Ophiuchus (Nov 1-10), Serpens (10-24), and into Aquila (24-30). It hasn't been as well placed for southern hemisphere observers, and it only gets worse in November, with the comet having set by the end of astronomical twilight by mid-month.

Photo Opportunities

Nov 13 - C/2023 (Tsuchinshan-ATLAS) passes ~1.5 degrees from large open cluster IC 4756

The path of C/2023 A3 (Tsuchinshan-ATLAS) from 2024 November 1

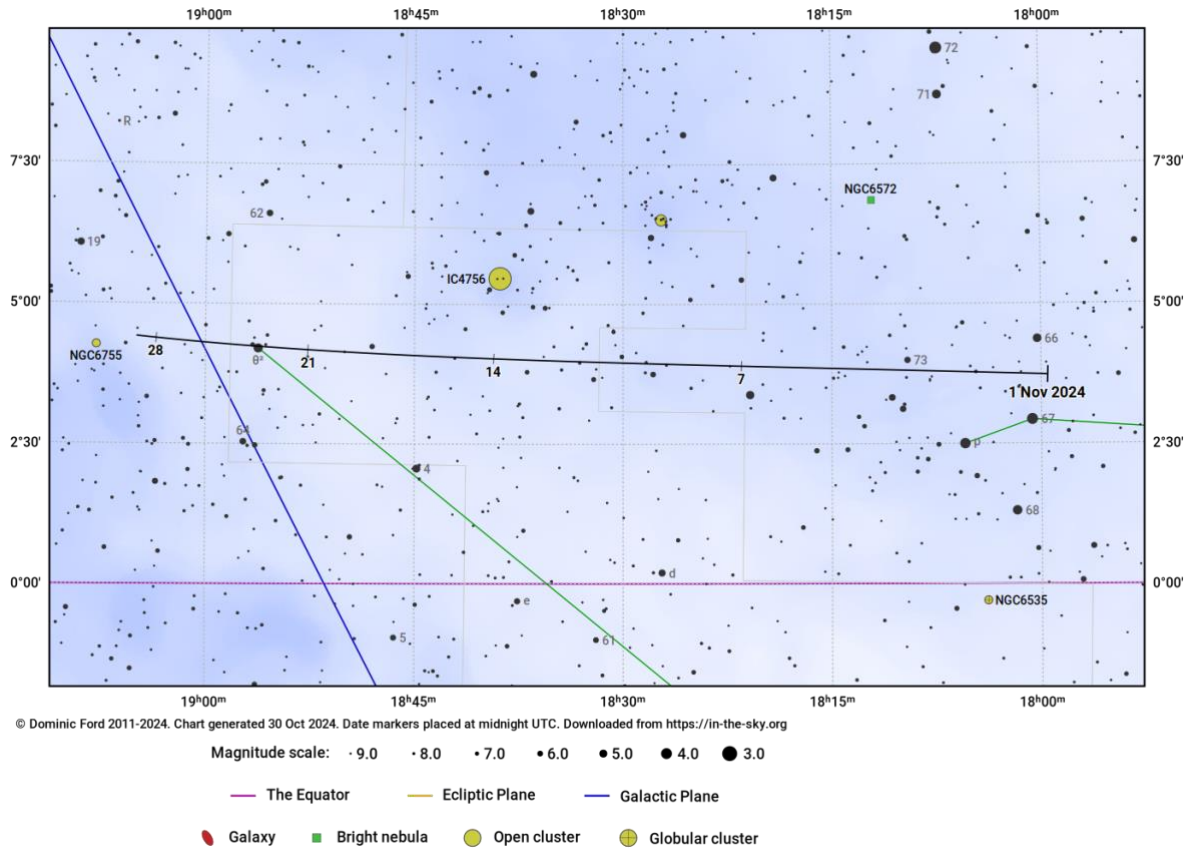


Figure 3 - Star chart for C/2023 A3 in November 2024. Chart produced at in-the-sky.org.



Figure 4 - Two views of C/2023 A3 (Tsuchinshan-ATLAS) by Eliot Herman (Tucson, AZ) on 2024 October 15 UT. The left image was taken with a Vixen VSD astrograph. The right image was taken with a Nikon 50mm f/1.8 lens.



Figure 5 – Another two-for. Christian Harder sketched and imaged C/2023 A3 on October 15 UT. The left image was a sketch of the view in 15x70 binoculars. The right image was taken with a Canon 500D camera and 300mm f/4 lens. The other faint fuzzy in the middle right part of each image is the bright globular star cluster M5.



Figure 6 - Tail and anti-tail shine in an image mosaic Dan Bartlett took on October 15 with a Rokinon 135mm f/2.4 lens and ZWO ASI2600mcP camera.

13P/Olbers

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

Orbit (from Minor Planet Center, MPEC 2024-U268)

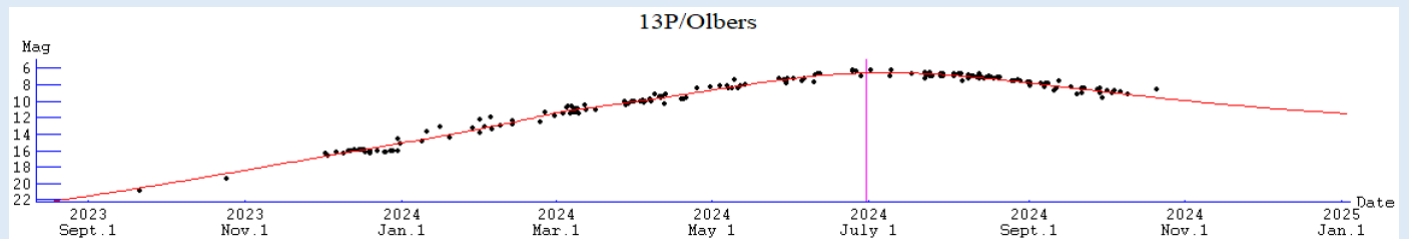
13P/Olbers
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2024 June 30.05013 TT Rudenko
q 1.1754760 (2000.0) P Q
n 0.01422889 Peri. 64.41676 -0.60853297 -0.37163087
a 16.8663839 Node 85.84712 +0.18555913 -0.92570139
e 0.9303066 Incl. 44.66594 +0.77152799 -0.07048000
P 69.3
From 2141 observations 2023 Oct. 8-2024 Oct. 13, mean residual 0".5.
Nongravitational parameters A1 = +0.66, A2 = -0.1612.

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-Nov-01	15 46	-05 09	2.117	3.007	21E		9.9	4	0	
2024-Nov-06	15 55	-06 24	2.170	3.078	19E		10.1	2	0	
2024-Nov-11	16 04	-07 34	2.223	3.148	17E		10.2	0	0	

Comet Magnitude Formula (from 2023-2024 ALPO data)

$m_1 = -0.9 + 5 \log d + 32.9 \log r$ [Up through T-115 days]
 $m_1 = 3.9 + 5 \log d + 17.5 \log r$ [Between T-115 days and perihelion]
 $m_1 = 4.4 + 5 \log d + 9.6 \log r$ [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 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 10 27.09	Z 9.9	GG	5.0R	4a300	4			ICQ XX OLAaa	Michael Olason
13	2024 10 20.79	S 8.9	TK	20.3T10	100	4	4		ICQ XX GON05	Juan Jose Gonzalez Suarez
13	2024 10 06.77	S 9.8:TI	53.1L	139	2.5	3			ICQ XX HAR11	Christian Harder
13	2024 10 04.76	S 9.6	TI	53.1L	139	3	3		ICQ XX HAR11	Christian Harder
13	2024 10 03.77	S 9.3:TI	25.2L	78	4	3			ICQ XX HAR11	Christian Harder

The 2024 apparition of Halley-type comet 13P/Olbers is coming to a close for most visual observers. Not only is the comet dropping below magnitude 10.0 this month, but it will soon be located too close to the Sun to be observed. It is already too close to the Sun for southern hemisphere observers, and northern observers will lose sight of it early in November, if not already, due to its low elevation. After solar conjunction, Olbers will reappear in the morning sky in January when it may still be as bright as 11-12th magnitude.

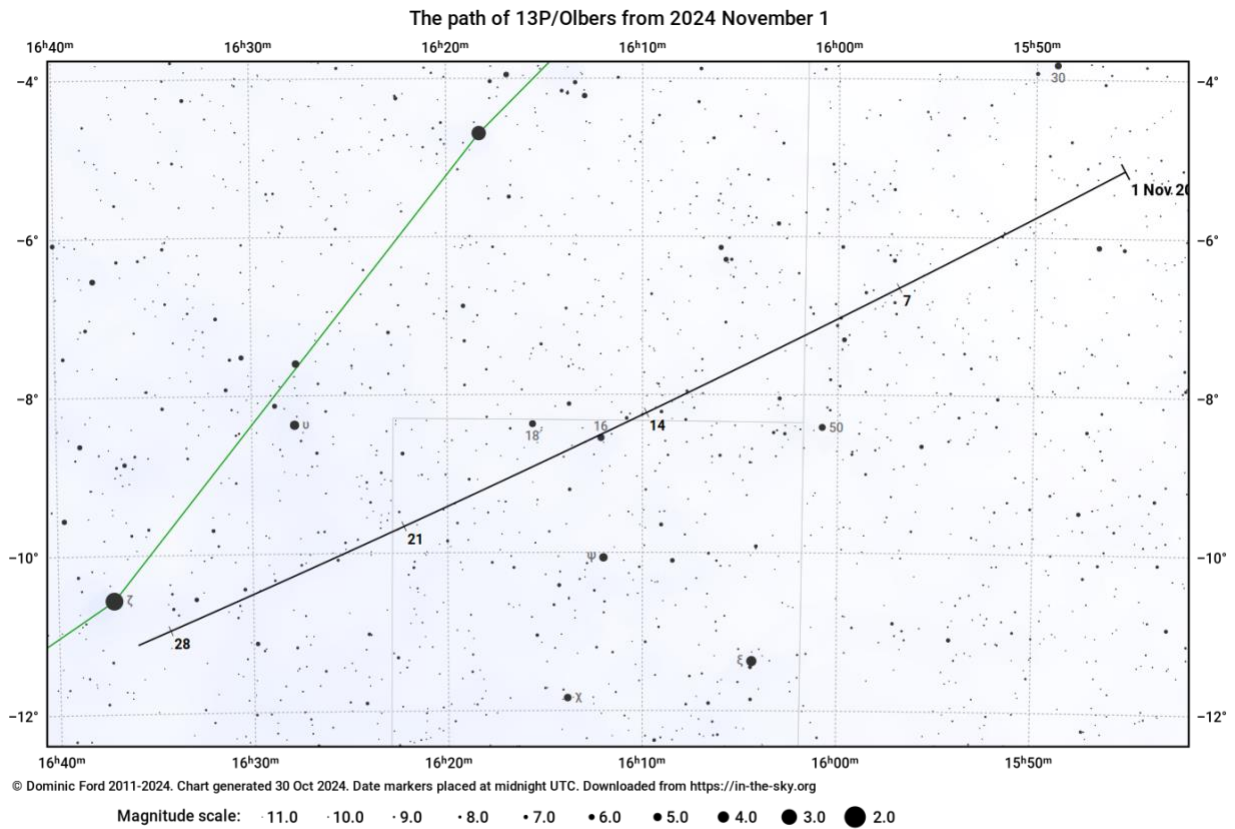


Figure 7 - Finder chart for 13P/Olbers in November 2024 from *in-the-sky.org*.

Comets Between Magnitude 10 and 12

333P/LINEAR

Discovered on 2007 November 4 by the Lincoln Laboratory Near-Earth Asteroid Research program
Jupiter-family comet

Orbit (from Minor Planet Center, MPEC 2024-U268)

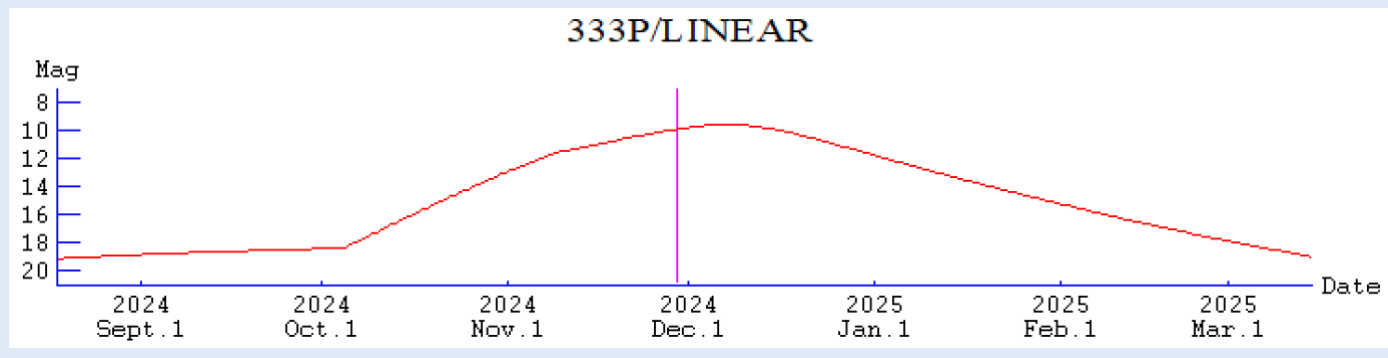
333P/LINEAR
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2024 Nov. 29.29918 TT Rudenko
q 1.1129402 (2000.0) P Q
n 0.11366829 Peri. 26.01798 -0.12521098 +0.73230090
a 4.2206224 Node 115.70564 +0.73013498 -0.38878626
e 0.7363090 Incl. 132.02166 +0.67173292 +0.55908911
P 8.67
From 629 observations 2016 Jan. 1-2024 Oct. 31, 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-Nov-01	10 52	+04 26	1.180	1.400	56M	Leo	13.0	34	8
2024-Nov-06	10 59	+07 12	1.159	1.262	60M	Leo	12.1	39	7
2024-Nov-11	11 07	+10 41	1.142	1.121	65M	Leo	11.5	45	5
2024-Nov-16	11 17	+15 14	1.128	0.980	69M	Leo	11.0	51	2
2024-Nov-21	11 31	+21 17	1.119	0.844	74M	Leo	10.6	57	0
2024-Nov-26	11 50	+29 31	1.114	0.720	79M	UMa	10.2	62	0
2024-Dec-01	12 23	+40 34	1.113	0.618	84M	CVn	9.9	64	0
2024-Dec-06	13 24	+53 55	1.117	0.554	88M	UMa	9.7	57	0

Comet Magnitude Formula (from Seiichi Yoshida)

H = 15.0, G = 0.15 [Through T-55 days]
 $m_1 = 6.5 + 5 \log d + 80.0 \log r$ [Between T-55 days and T-20 days]
 $m_1 = 9.5 + 5 \log d + 30.0 \log r$ [Between T-20 days and T+108 days]
H = 15.0, G = 0.15 [After T+108 days]
where "T" is date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au



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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		
13	2024 10 27.09	Z 9.9	GG	5.0R	4a300	4					ICQ XX OLAaa	Michael Olason
13	2024 10 20.79	S 8.9	TK	20.3T10	100	4	4				ICQ XX GON05	Juan Jose Gonzalez Suarez
13	2024 10 06.77	S 9.8	TI	53.1L	139	2.5	3				ICQ XX HAR11	Christian Harder
13	2024 10 04.76	S 9.6	TI	53.1L	139	3	3				ICQ XX HAR11	Christian Harder
13	2024 10 03.77	S 9.3	TI	25.2L	78	4	3				ICQ XX HAR11	Christian Harder

333P/LINEAR is one odd-ball object. With an orbital inclination of 132 degrees and an orbital period of 8.7 years, it holds the title of retrograde comet with the shortest orbital period. After adding asteroids in the mix, only one asteroid is retrograde with a shorter orbital period, (343158) Marsyas, which coincidentally is also at perihelion this month (T = 2024 November 29 at 0.49 au).

333P was discovered by the Lincoln Laboratory Near-Earth Asteroid Research (LINEAR) survey on 2007 November 4, about 4 months after perihelion when the comet was 17-18th magnitude. During its next return in 2016, 333P rapidly brightened from 20th magnitude 3 months before perihelion to a peak brightness 11th magnitude before dropping back to 19th magnitude 4 months after perihelion.

Assuming it follows the same brightness trend at the current apparition, the comet will only remain bright for a short while (brightening from around 13th magnitude on November 1 to about magnitude 10 at the end of the month before peaking around magnitude 9.7 in early December). Observations submitted to the Minor Planet Center suggest a current brightness of 14.5, so 333P may be running fainter than the prediction above. Then again, it is also possible that this low-activity comet has a low surface brightness gas coma that isn't being adequately measured. In short, there is some uncertainty about how bright it will get.

During this return, 333P/LINEAR will be a morning object. Since it will be heading north through Leo (Nov 1-25), Ursa Major (25-28), and Canes Venatici (28-30), it is much better placed for observers in the northern hemisphere. Southern hemisphere observers will lose sight of it by mid-month. Even if the comet reaches 10th magnitude this month, it may be difficult to observe due to a large low-surface brightness coma.

Perihelion occurs on November 29 at 1.11 au and closest approach to Earth on December 9 at 0.54 au. Before its discovery, it made closer approaches (0.25 au in 1903, 0.38 au in 1929, 0.49 au in 1955, 0.22 au in 1973, and 0.43 au in 1998). In the future, it will pass 0.18 au from Earth in 2068.

Photo Opportunities

- Nov 14 - 333P/LINEAR passes within 1.5 deg of Leo Triplet of galaxies (NGC 3623, 3627, 3628]
- Nov 27 - 333P/LINEAR passes over 12th mag galaxy NGC 3994
- Nov 29 - 333P/LINEAR passes 40' from 10th mag galaxy NGC 4244
- Nov 29 - 333P/LINEAR passes 1.5 deg from 11th mag galaxy NGC 4151

The path of 333P/LINEAR from 2024 November 1

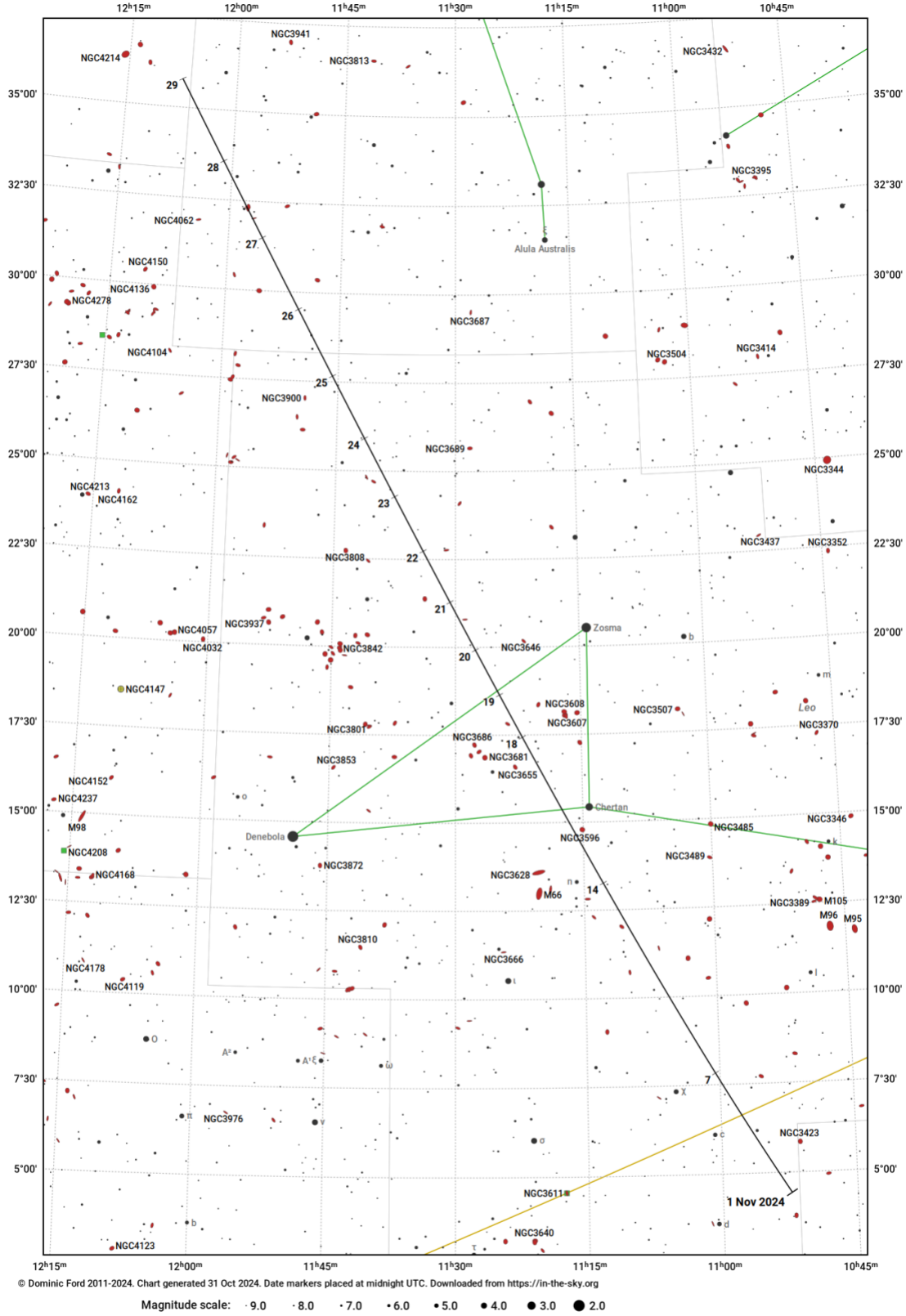


Figure 8 - Finder chart for 333P/LINEAR in November 2024 from in-the-sky.org.

C/2024 G3 (ATLAS)

Discovered visually on 1812 July 12 by Jean-Louis Pons and rediscovered visually on 1883 September 2 by William R. Brooks
Dynamically old long-period comet

Orbit (from Minor Planet Center, MPEC 2024-U268)

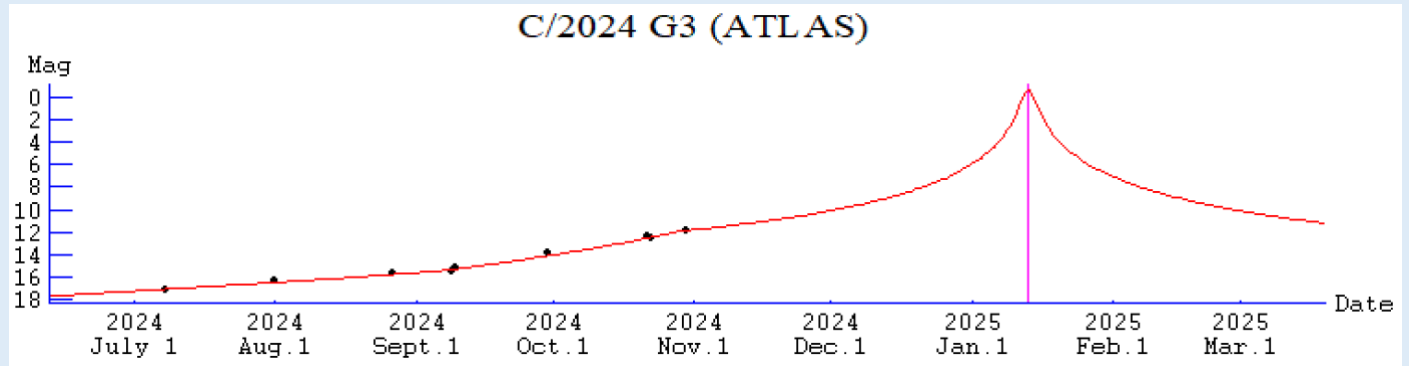
C/2024 G3 (ATLAS)
Epoch 2024 Oct. 17.0 TT = JDT 2460600.5
T 2025 Jan. 13.42898 TT Rudenko
q 0.0935252 (2000.0) P Q
z -0.0000952 Peri. 108.12535 -0.04069055 +0.81534820
+/-0.0000034 Node 220.33878 +0.14761168 +0.57658088
e 1.0000089 Incl. 116.84643 +0.98820801 -0.05255281
From 271 observations 2024 Apr. 5-Oct. 28, mean residual 0".4.
1/a(orig) = +0.000335 AU**⁻¹, 1/a(fut) = +0.000163 AU**⁻¹.

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

Date	R.A.	Decl.	r	d	Elong	Const	Mag	Max El	
								40N	40S
2024-Nov-01	14 53	-44 29	1.841	2.624	30E	Lup	12.0	0	9
2024-Nov-06	15 02	-43 57	1.752	2.562	28E	Lup	11.8	0	7
2024-Nov-11	15 11	-43 24	1.662	2.494	26E	Lup	11.5	0	4
2024-Nov-16	15 21	-42 49	1.569	2.418	24M	Lup	11.3	0	3
2024-Nov-21	15 31	-42 12	1.473	2.336	22M	Lup	11.0	0	2
2024-Nov-26	15 42	-41 32	1.375	2.247	21M	Lup	10.7	0	2
2024-Dec-01	15 54	-40 46	1.273	2.150	20M	Lup	10.3	0	2
2024-Dec-06	16 06	-39 54	1.167	2.045	19M	Lup	9.9	0	2

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

$m_1 = 7.2 + 5 \log d + 13.7 \log r$ [Until T-120 days]
 $m_1 = 3.5 + 5 \log d + 22.2 \log r$ [between T-120 days and T-85 days]
 $m_1 = 7.8 + 5 \log d + 8.0 \log r$ [after T-85 days, assumed]
 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	DC	TAIL LENG	PA	ICQ CODE	Observer Name
2024G3	2024 10 30.39	xM 11.9	AQ	25.0L	5	125	0.6	4/			ICQ XX WYA	Christopher Wyatt
2024G3	2024 10 22.40	xM 12.5	AQ	25.0L	5		0.5	5/			ICQ XX WYA	Christopher Wyatt
2024G3	2024 10 22.40	xM 12.5	AQ	25.0L	5		0.5	5/			ICQ XX WYA	Christopher Wyatt
2024G3	2024 10 21.76	C 12.4	AQ	36.0L	8a	360	0.8		0.03	161	ICQ XX PEA	Andrew Pearce

2025 is looking to be a slow year for comet observers. One of the only comets expected to get bright is C/2024 G3 (ATLAS). Making matters even worse, G3 will be located very close to the Sun when bright and only visible from one hemisphere (the southern) when far enough from the Sun to be observed.

C/2024 G3 (ATLAS) was discovered on 2024 April 5 by the "Asteroid Terrestrial-Impact Last Alert System" (ATLAS) search program with one of their 0.5-m f/2 Schmidt reflector at Rio Hurtado, Chile. The comet was 4.6 au from the Sun at discovery and 18th magnitude. Perihelion will be on 2025 January 13, at a small distance

of 0.09 au from the Sun. Usually, with such a small perihelion distance, we are concerned with the possibility of disintegration. While that is always a possibility, this comet appears to be dynamically old so it has likely made past close perihelia passages in the past.

Observations in late October show a rapidly brightening comet that is now around magnitude 12.0. Going forward, we are using a conservative 8 log r brightening rate, which brings the comet up to magnitude 10.3 at the end of the month. If it continues to brighten at a faster rate, it may be even brighter than the predictions here.

As mentioned above, G3 is only visible to southern hemisphere observers. Even then, it will be a low-elevation object in the evening sky until November 13, when it moves into the morning sky. All month long, its solar elongation drops from 31 degrees on the 1st to 20 degrees at the end of the month.

Looking forward to its January 13 perihelion, the comet will be at a small solar elongation of 5 degrees. Even though it may be as bright as 0th magnitude at the time, it will be much too close to the Sun to be observed from Earth. But luckily, we have the SOHO spacecraft and its coronagraph. G3 will be within the SOHO LASCO C3 coronagraph field of view from January 11 to 15.

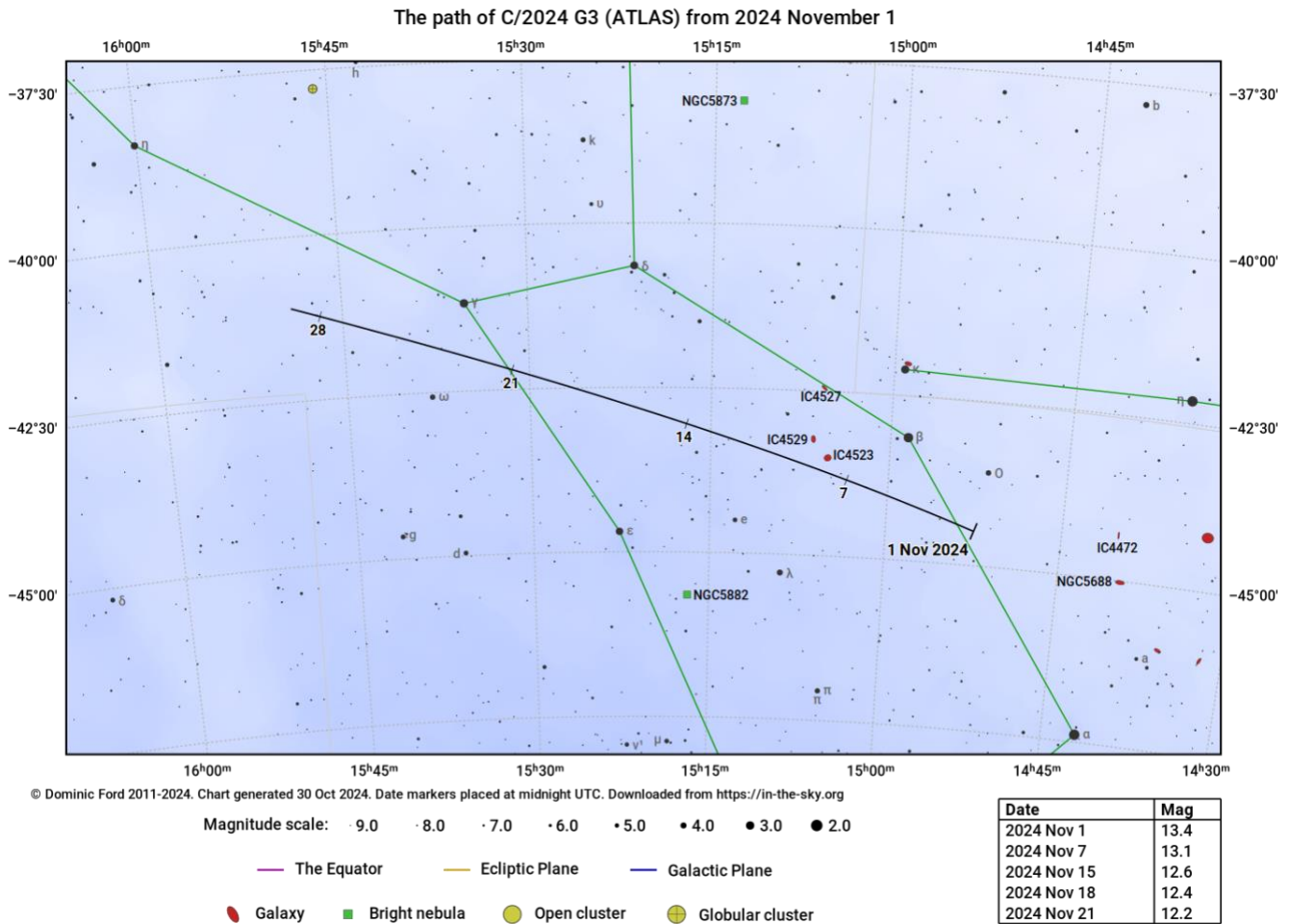


Figure 9 - Finder chart for C/2024 G3 (ATLAS) in November 2024 from in-the-sky.org.