April 2025

# ALPO Comet News

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

### Newly Discovered Bright Comet SWAN25F


6x(18x10s) 2025 April 3 1139-1210UT FOV 35'x56' 50mm f/5 Ref IMX462 2.4"/pixel
SWAN25F magnitude 10.6 coma 2' Tail 30' PA 299 degrees Mike Olason, Tucson Arizona

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## On the Front Cover:

Newly discovered comet SWAN25F may reach 5th magnitude at perihelion on May 1. At the start of April, the comet was still around 9th magnitude. Mike Olason (Tucson, AZ) imaged SWAN25F on April 3 with a 50mm f5 refractor and IMX462 camera. The comet had a 2’ coma and 30’ long tail.

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/960331-alpo-comet-news-for-april-2025/ ). 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

I was really considering skipping this month's ALPO Comet News due to a lack of bright comets. Luckily, a new bright comet has recently been discovered in SOHO SWAN spacecraft image data. The new object has yet to be officially announced and designated, so we will refer to it by its provisional designation SWAN25F. SWAN25F is currently around magnitude 9.0 in the morning sky, though it is only visible from the northern hemisphere. As the comet approaches its May 1 perihelion at 0.33 au, it may brighten to 5$^{th}$ magnitude by the end of the month as it shifts from the morning to the evening sky. However, it will be rising/setting around the end/start of astronomical twilight.

In April, the ALPO Comets Section received 45 magnitude estimates and 23 images of 26 comets: SWAN25F, P/2025 D3 (PANSTARRS), P/2025 C1 (ATLAS), C/2024 L5 (ATLAS), C/2024 A1 (ATLAS), C/2023 T3 (Fuls), P/2023 S1, C/2023 H5 (Lemmon), C/2023 F3 (ATLAS), C/2023 A3 (Tsuchinshan-ATLAS), C/2022 R6 (PANSTARRS), C/2022 QE78 (ATLAS), C/2022 E2 (ATLAS), C/2021 G2 (ATLAS), C/2020 K1 (PANSTARRS), C/2019 U5 (PANSTARRS), and C/2014 UN271 (Bernardinelli-Bernstein), 476P/PANSTARRS, 472P/NEAT-LINEAR, 363P/Lemmon, 215P/NEAT, 88P/Howell, 65P/Gunn, 49P/Arend-Rigaux, 29P/Schwassmann-Wachmann, and 12P/Pons-Brooks

A big thanks to our recent contributors: Denis Buczynski, José J. Chambó, Jose Guilherme de Souza, Juan Jose Gonzalez Suarez, Christian Harder, Eliot Herman, Rik Hill, Michael Jäger, John Maikner, Mike Olason, Andrew Pearce, and Tenho Tuomi.

## Request for Observations

We welcome all comet observations, whether textual descriptions, images, drawings, magnitude estimates, or spectra. We'd love to hear from you! Please share your observations via email with the Comets Section Coordinator Carl Hergenrother and Assistant Coordinator Michel Deconinck at comets@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)

Apr 05 - First Quarter Moon
Apr 13 - Full Moon
Apr 21 - Last Quarter Moon
Apr 27 - New Moon

Comets at Perihelion

Apr 03 - 486P/Leonard [q = 2.31 au, 6.9-year period, V ~ 19, discovered in 2018, 2025 is its recovery apparition]
Apr 04 - C/2024 V1 (Borisov) [q = 2.32 au, V ~ 17]
Apr 10 - 49P/Arend-Riguax [q = 1.43 au, 6.7-year period, V ~ 13-14, discovered in 1951, 12 observed returns]
Apr 11 - C/2024 N3 (Sarneczky) [q = 5.01 au, V ~ 16-17]
Apr 14 - 289P/Blanpain [q = 0.95 au, 5.3-year period, V ~ 22, discovered in 1819, rediscovered in 2003, also seen in 2014, 2019, and 2025, parent of the Phoenicid meteor shower]
Apr 20 - C/2025 F1 (ATLAS) [q = 1.07 au, V ~ 17-18]
Apr 22 - 341P/Gibbs [q = 2.51 au, V ~ 18-19, 8.9-year period, discovered in 2007, also seen in 2016, yet to be seen at 2025 return]
Apr 23 - C/2024 L1 (PANSTARRS) [q = 5.35 au, V ~ 19]
Apr 25 - C/2024 J4 (Lemmon) [q = 5.70 au, V ~ 18]

# Recent Magnitudes Contributed to the ALPO Comets Section

| Comet Des | YYYY MM DD.DD (UT) | Mag | SC | APER | FL | POW T | COMA Dia | COMA DC | TAIL LENG | TAIL PA | ICQ CODE | Observer Name |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 476P/PANSTARRS | | | | | | | | | | | | |
| 476 | 2025 03 04.04 | C 20.4 | BG | 30.5H | 4F | 000 | | | | | ICQ XX MAI01 | John Maikner |
| 472P/NEAT-LINEAR | | | | | | | | | | | | |
| 472 | 2025 03 31.53 | C 17.3 | AV | 35.0T | 6A | 440 | 0.3 | | | | ICQ XX PEA | Andrew Pearce |
| 472 | 2025 03 24.55 | C 17.6 | AV | 35.0T | 6A | 440 | 0.3 | | | | ICQ XX PEA | Andrew Pearce |
| 472 | 2025 03 19.51 | C 16.5 | AV | 35.0T | 6A | 440 | 0.4 | | | | ICQ XX PEA | Andrew Pearce |
| 363P/Lemmon | | | | | | | | | | | | |
| 363 | 2025 03 27.23 | C 20.6 | BG | 30.5H | 4E | 160 | | | | | ICQ XX MAI01 | John Maikner |
| 215P/NEAT | | | | | | | | | | | | |
| 215 | 2025 03 04.21 | C 20.6 | BG | 30.5H | 4C | 840 | | | | | ICQ XX MAI01 | John Maikner |
| 88P/Howell | | | | | | | | | | | | |
| 88 | 2025 03 31.64 | C 18.4 | AV | 35.0T | 6A | 440 | 0.3 | | | | ICQ XX PEA | Andrew Pearce |
| 88 | 2025 03 27.07 | C 18.5 | BG | 30.5H | 4A | 800 | | | | | ICQ XX MAI01 | John Maikner |
| 88 | 2025 03 26.60 | C 17.7 | AV | 35.0T | 6A | 440 | 0.4 | | | | ICQ XX PEA | Andrew Pearce |
| 88 | 2025 03 24.50 | C 17.8 | AV | 35.0T | 6A | 440 | 0.5 | | | | ICQ XX PEA | Andrew Pearce |
| 88 | 2025 03 22.52 | C 17.9 | AV | 35.0T | 6A | 440 | 0.4 | | | | ICQ XX PEA | Andrew Pearce |
| 88 | 2025 03 20.51 | C 17.6 | AV | 35.0T | 6A | 080 | 0.5 | | | | ICQ XX PEA | Andrew Pearce |
| 88 | 2025 03 19.58 | C 18.2 | AV | 35.0T | 6A | 080 | 0.41 | | | | ICQ XX PEA | Andrew Pearce |
| 65P/Gunn | | | | | | | | | | | | |
| 65 | 2025 03 31.74 | C 17.0 | AV | 35.0T | 6A | 080 | 0.3 | | | | ICQ XX PEA | Andrew Pearce |
| 65 | 2025 03 30.76 | C 16.5 | AV | 35.0T | 6A | 080 | 0.3 | | | | ICQ XX PEA | Andrew Pearce |
| 65 | 2025 03 26.75 | C 16.5 | AV | 35.0T | 6A | 080 | 0.2 | | | | ICQ XX PEA | Andrew Pearce |
| 29P/Schwassmann-Wachmann | | | | | | | | | | | | |
| 29 | 2025 03 31.63 | C 14.2 | AV | 35.0T | 6a | 720 | 0.9 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 30.85 | S 10.9 | TK | 20.3T10 | | 77 | 6 | 1/ | | | ICQ XX GON05 | Juan Jose Gonzalez Suarez |
| 29 | 2025 03 30.50 | C 14.1 | AV | 35.0T | 6a | 720 | 0.9 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 27.87 | S 13.3:TI | | 53.1L | | 194 | 1.5 | 0/ | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 27.87 | S 13.3:TI | | 53.1L | | 194 | 1.5 | 0/ | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 26.67 | C 12.9 | AV | 35.0T | 6a | 720 | 1.3 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 25.63 | C 13.9 | AV | 35.0T | 6a | 720 | 0.8 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 24.62 | C 13.8 | AV | 35.0T | 6a | 720 | 1 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 22.82 | S 13.8 | TI | 53.1L | | 162 | 1.5 | 1 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 22.50 | C 13.5 | AV | 35.0T | 6a | 840 | 1.2 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 21.85 | S 13.6 | TI | 53.1L | | 162 | 1.6 | 1 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 20.64 | C 11.3 | AV | 35.0T | 6a | 840 | 3.5 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 19.84 | S 13.7 | TI | 53.1L | | 162 | 1.5 | 1 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 19.57 | C 11.5 | AV | 35.0T | 6a | 780 | 3.5 | | | | ICQ XX PEA | Andrew Pearce |
| 29 | 2025 03 18.84 | S 13.1 | TI | 53.1L | | 162 | 1.6 | 1 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 17.82 | S 13.2 | TI | 53.1L | | 139 | 1.5 | 1 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 03 05.08 | M 11.8 | AQ | 30 | L | 5 100 | 1.5 | 2/ | | | ICQ XX DES01 | Jose Guilherme de Souza |
| 29 | 2025 03 04.08 | M 11.7 | AQ | 30 | L | 5 100 | 1.5 | 2 | | | ICQ XX DES01 | Jose Guilherme de Souza |
| 29 | 2025 02 28.93 | S 11.3 | TI | 25.2K | | 68 | 2.8 | 3 | | | ICQ XX HAR11 | Christian Harder |
| 29 | 2025 02 28.01 | S 11.6 | TI | 25.2L | | 78 | 2 | 1/ | | | ICQ XX HAR11 | Christian Harder |
| 12P/Pons-Brooks | | | | | | | | | | | | |
| 12 | 2025 03 24.70 | C 18.5 | AV | 35.0T | 6A | 440 | 0.2 | | | | ICQ XX PEA | Andrew Pearce |
| 12 | 2025 03 23.70 | C 18.1 | AV | 35.0T | 6A | 440 | 0.2 | | | | ICQ XX PEA | Andrew Pearce |
| 12 | 2025 03 19.73 | C 17.9 | AV | 35.0T | 6A | 080 | 0.2 | | | | ICQ XX PEA | Andrew Pearce |
| P/2025 D3 (PANSTARRS) | | | | | | | | | | | | |
| P2025D3 | 2025 03 27.16 | C 20.6 | BG | 30.5H | 4G | 200 | | | | | ICQ XX MAI01 | John Maikner |
| P/2025 C1 (ATLAS) | | | | | | | | | | | | |
| P2025C1 | 2025 03 11.67 | C 18.8 | AV | 35.0T | 6A | 440 | 0.4 | | | | ICQ XX PEA | Andrew Pearce |
| P/2023 S1 | | | | | | | | | | | | |
| P2023S1 | 2025 03 31.62 | C 15.9 | AV | 35.0T | 6a | 360 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 30.48 | C 15.8 | AV | 35.0T | 6A | 080 | 0.5 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 26.56 | C 15.7 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 25.59 | C 15.7 | AV | 35.0T | 6A | 080 | 0.5 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 24.49 | C 16.0 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 23.62 | C 15.7 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 22.49 | C 15.9 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 20.49 | C 15.4 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 19.62 | C 15.0 | AV | 35.0T | 6A | 080 | 0.7 | | | | ICQ XX PEA | Andrew Pearce |
| P2023S1 | 2025 03 19.04 | C 17.1 | BG | 30.5H | 4A | 680 | | | | | ICQ XX MAI01 | John Maikner |
| P2023S1 | 2025 03 11.60 | C 14.5 | AV | 35.0T | 6A | 080 | 0.5 | | | | ICQ XX PEA | Andrew Pearce |
| C/2024 L5 (ATLAS) | | | | | | | | | | | | |
| 2024L5 | 2025 03 31.59 | C 15.1 | AV | 35.0T | 6A | 080 | 0.8 | | 0.6m | 98 | ICQ XX PEA | Andrew Pearce |
| 2024L5 | 2025 03 30.65 | C 15.2 | AV | 35.0T | 6A | 080 | 0.6 | | | | ICQ XX PEA | Andrew Pearce |
| 2024L5 | 2025 03 26.61 | C 15.1 | AV | 35.0T | 6A | 080 | 0.7 | | | | ICQ XX PEA | Andrew Pearce |

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   2024L5  2025 03 25.67  C 15.0 AV 35.0T 6A080   0.5              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 24.66  C 15.0 AV 35.0T 6A080   0.7              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 23.67  C 15.1 AV 35.0T 6A080   0.7              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 22.62  C 15.3 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 20.70  C 15.1 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 19.68  C 15.3 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2024L5  2025 03 11.66  C 15.3 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
C/2024 A1 (ATLAS)
   2024A1  2025 03 31.55  C 16.3 AV 35.0T 6A440   0.4              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 30.57  C 16.5 AV 35.0T 6a720   0.5              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 26.50  C 16.2 AV 35.0T 6A440   0.5              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 25.57  C 16.3 AV 35.0T 6A440   0.4              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 24.57  C 16.5 AV 35.0T 6A440   0.5              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 22.57  C 15.9 AV 35.0T 6a900   0.5              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 19.52  C 16.2 AV 35.0T 6A440   0.6              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 11.56  C 15.6 AV 35.0T 6A440   0.6              ICQ XX PEA   Andrew Pearce
   2024A1  2025 03 10.58  C 15.8 AV 35.0T 6A440   0.41             ICQ XX PEA   Andrew Pearce
C/2023 T3 (Fuls)
   2023T3  2025 03 31.67  C 15.6 AV 35.0T 6A080   0.9              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 30.66  C 15.7 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 26.64  C 15.6 AV 35.0T 6A080   0.7              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 25.66  C 15.8 AV 35.0T 6A080   0.5              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 24.65  C 16.0 AV 35.0T 6A080   0.41             ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 23.66  C 16.0 AV 35.0T 6A080   0.4              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 22.64  C 15.7 AV 35.0T 6A080   0.4              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 20.69  C 16.0 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 19.70  C 15.7 AV 35.0T 6A080   0.6              ICQ XX PEA   Andrew Pearce
   2023T3  2025 03 11.63  C 15.6 AV 35.0T 6A080   0.7              ICQ XX PEA   Andrew Pearce
C/2023 H5 (Lemmon)
   2023H5  2025 03 19.86  S 15.9 TI 53.1L   323   0.2  4           ICQ XX HAR11 Christian Harder
   2023H5  2025 03 19.00  C 16.5 BG 30.5H 4a900            5  s190 ICQ XX MAI01 John Maikner
   2023H5  2025 03 18.86  S 15.9 TI 53.1L   242   0.2  4           ICQ XX HAR11 Christian Harder
   2023H5  2025 03 17.83  S 15.8:TI 53.1L   323   0.25 4    1  m180 ICQ XX HAR11 Christian Harder
C/2023 F3 (ATLAS)
   2023F3  2025 03 31.61  C 16.0 AV 35.0T 6A080   0.7       0.8m101 ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 30.69  C 16.4 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 26.59  C 16.6 AV 35.0T 6A080   0.4               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 25.64  C 16.9 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 24.64  C 16.2 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 23.65  C 16.5 AV 35.0T 6a720   0.5               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 22.65  C 16.6 AV 35.0T 6A080   0.6       1  m102 ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 20.67  C 16.2 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 19.64  C 16.4 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
   2023F3  2025 03 11.64  C 15.9 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
C/2023 A3 (Tsuchinshan-ATLAS)
   2023A3  2025 03 05.51  V 11.9 GG  5.0R 5a600   2         2  m323 ICQ XX OLAaa Mike Olason
C/2022 R6 (PANSTARRS)
   2022R6  2025 03 31.58  C 16.5 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 30.59  C 16.3 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 26.52  C 16.1 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 25.53  C 15.8 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 24.61  C 15.7 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 23.61  C 16.4 AV 35.0T 6A080   0.3               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 22.60  C 16.7 AV 35.0T 6a900   0.4               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 20.62  C 15.8 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 11.58  C 16.3 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022R6  2025 03 10.61  C 16.2 AV 35.0T 6A080   0.41              ICQ XX PEA   Andrew Pearce
C/2022 QE78 (ATLAS)
   2022QE782025 03 31.52  C 15.2 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 30.52  C 15.3 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 26.49  C 15.4 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 25.54  C 15.3 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 24.53  C 14.9 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 20.55  C 14.8 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 19.49  C 15.0 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 11.50  C 15.6 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2022QE782025 03 10.50  C 14.5 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
C/2022 E2 (ATLAS)
   2022E2  2025 03 22.82  S 14.8 TI 53.1L   242   0.4  3           ICQ XX HAR11 Christian Harder
   2022E2  2025 03 19.82  S 14.5 TI 53.1L   162   0.4  3           ICQ XX HAR11 Christian Harder
   2022E2  2025 03 18.00  S 14.7 TI 53.1L   194   0.5  3/          ICQ XX HAR11 Christian Harder
C/2021 G2 (ATLAS)
   2021G2  2025 03 31.68  C 13.7 AV 35.0T 6A080   1.5       7.7m238 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 30.64  C 14.0 AV 35.0T 6A080   0.8               ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 26.66  C 13.7 AV 35.0T 6A080   1.2       4.1m242 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 25.68  C 14.1 AV 35.0T 6A080   0.8               ICQ XX PEA   Andrew Pearce
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   2021G2  2025 03 24.68  C 13.6 AV 35.0T 6A080   1.3       4.5m240 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 23.69  C 13.9 AV 35.0T 6a900   0.9       4.4m244 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 22.66  C 13.6 AV 35.0T 6a900   1.5       3.2m239 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 22.04  S 13.0:TI 53.1L   162   1    2/           ICQ XX HAR11 Christian Harder
   2021G2  2025 03 11.69  C 14.1 AV 35.0T 6a900   0.9       0.8m236 ICQ XX PEA   Andrew Pearce
   2021G2  2025 03 10.45  Z 13.7 GG 20.3D 2a600   1                 ICQ XX OLAaa Mike Olason
C/2020 K1 (PANSTARRS)
   2020K1  2025 03 31.50  C 17.0 AV 35.0T 6A440   0.4               ICQ XX PEA   Andrew Pearce
   2020K1  2025 03 24.59  C 17.2 AV 35.0T 6A440   0.4               ICQ XX PEA   Andrew Pearce
   2020K1  2025 03 22.56  C 17.3 AV 35.0T 6A440   0.5               ICQ XX PEA   Andrew Pearce
   2020K1  2025 03 20.59  C 17.0 AV 35.0T 6A440   0.31              ICQ XX PEA   Andrew Pearce
   2020K1  2025 03 19.55  C 17.6 AV 35.0T 5A440   0.5               ICQ XX PEA   Andrew Pearce
   2020K1  2025 03 11.53  C 16.1 AV 35.0T 6A440   0.5               ICQ XX PEA   Andrew Pearce
C/2019 U5 (PANSTARRS)
   2019U5  2025 03 31.48  C 16.7 AV 35.0T 6A440   0.5               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 26.53  C 15.8 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 25.50  C 16.2 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 23.57  C 17.2 AV 35.0T 6a900   0.5               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 22.54  C 16.1 AV 35.0T 6A080   0.6       0.6m111 ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 19.60  C 16.7 AV 35.0T 5A080   0.5               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 11.52  C 16.8 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2019U5  2025 03 10.55  C 16.6 AV 35.0T 6A080   0.6               ICQ XX PEA   Andrew Pearce
C/2014 UN271 (Bernardinelli-Bernstein)
   2014UNR12025 03 30.56  C 16.0 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2014UNR12025 03 26.55  C 15.7 AV 35.0T 6A080   0.7               ICQ XX PEA   Andrew Pearce
   2014UNR12025 03 25.52  C 16.2 AV 35.0T 6A080   0.5               ICQ XX PEA   Andrew Pearce
   2014UNR12025 03 11.59  C 15.8 AV 35.0T 6A080   0.8               ICQ XX PEA   Andrew Pearce
   2014UNR12025 03 10.53  C 15.3 AV 35.0T 6A080   0.8               ICQ XX PEA   Andrew Pearce
```

# Comets News

*Looking Ahead to the Next 12 Months*

The chart below shows those comets expected to become brighter than magnitude 10 over the next 12 months. 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). All brightness predictions are just that—predictions and may be off by many magnitudes.

| Northern Hemisphere | 04/05/25 | 04/15/25 | 04/25/25 | 05/05/25 | 05/15/25 | 05/25/25 | 06/04/25 | 06/14/25 | 06/24/25 | 07/04/25 | 07/14/25 | 07/24/25 | 08/03/25 | 08/13/25 | 08/23/25 | 09/02/25 | 09/12/25 | 09/22/25 | 10/02/25 | 10/12/25 | 10/22/25 | 11/01/25 | 11/11/25 | 11/21/25 | 12/01/25 | 12/11/25 | 12/21/25 | 12/31/25 | 01/10/26 | 01/20/26 | 01/30/26 | 02/09/26 | 02/19/26 | 03/01/26 | 03/11/26 | 03/21/26 | 03/31/26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SWAN25F | 9 | 7 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C/2025 A6 (Lemmon) | | | | | | | | | | | | | | | | | | | | 9 | 9 | 9 | | | | | | | | | | | | | | |
| 210P/Christensen | | | | | | | | | | | | | | | | | | | | | | | | 9 | | | | | | | | | | | | |
| 24P/Schaumasse | | | | | | | | | | | | | | | | | | | | | | | | | 9 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | | | | |
| C/2024 E1 (Wierzchos) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 8 | 9 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southern Hemisphere | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SWAN25F | | | | 5 | 7 | 8 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C/2025 A6 (Lemmon) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 210P/Christensen | | | | | | | | | | | | | | | | | | | | | | 9 | | | | | | | | | | | | | | |
| 24P/Schaumasse | | | | | | | | | | | | | | | | | | | | | | | | | 9 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | | | | |
| C/2024 E1 (Wierzchos) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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, #17)*

```
497P/2011 UA134 = P/2024 T4                  (Spacewatch-PANSTARRS)
496P/2010 A3    = P/2024 S3                  (Hill)
495P/2016 A2    = P/2024 RU145               (Christensen)
494P/2024 N2    = P/2010 T8    = P/2017 R2   (PANSTARRS)
493P/2005 SB216 = P/2004 Q2                  (LONEOS)
492P/2010 WK    = P/2010 PB57  = P/2024 O3   (LINEAR)
491P/2014 MG4   = P/2024 K2                  (Spacewatch-PANSTARRS)
490P/2019 M2    = P/2024 C6                  (ATLAS)
489P/1894 F1    = P/2007 HE4                 (Denning)
488P/2024 N6    = P/2002 QU151               (NEAT-PANSTARRS)
```

*New Recoveries & Discoveries*

*C/2025 F1 (ATLAS)*

Discovered on 2025 March 22 at 19th magnitude with a 0.5-m f/2 Schmidt reflector at Rio Hurtado, Chile
Perihelion on 2025 April 20 at 1.07 au from the Sun and 1.32 au from Earth
Should peak at 18th magnitude
Ref. CBET 5534, MPEC 2025-G03

*C/2025 E1 (PANSTARRS)*

Discovered on 2025 March 2 at 20th magnitude with the Pan-STARRS1 1.8-m Ritchey-Chretien reflector at Haleakala
Perihelion on 2026 September 23 at 3.99 au, when it should peak at 18th magnitude

Pre-discovery observations from January 2025
Ref. CBET 5518, MPEC 2025-E58

*C/2025 D6 (ATLAS)*
Discovered on 2025 February 26 at 18th magnitude with a 0.5-m f/2 Schmidt reflector at Rio Hurtado, Chile
Perihelion on 2024 December 11 at 2.50 au
Already past perihelion and a peak brightness around 17-18th magnitude
Ref. CBET 5527, MPEC 2025-F22

*C/2025 D5 (PANSTARRS)*
Discovered on 2025 February 28 at 20th magnitude with the Pan-STARRS2 1.8-m Ritchey-Chretien reflector at Haleakala
Perihelion on 2025 May 13 at 2.01 au
Already peaked at 19-20th magnitude at opposition in March
Ref. CBET 5519, MPEC 2025-E99

*P/2016 P5 (COIAS)*
Discovered by H. Fukuyama in data taken on 2016 August 1 with the Subaru 8.2-m telescope at Mauna Kea as part of the Japanese citizen-science "Small Solar System Bodies Search Project" (COIAS)
The comet was at 24th magnitude in the discovery images

Perihelion on 2026 September 23 at 3.99 au, when it should peak at 18th magnitude
Pre-discovery observations from January 2025
Ref. CBET 5518, MPEC 2025-E58

*2025 BU10*
Discovered on 2025 January 27 at 21st magnitude with the Mt. Lemmon survey's 1.5-m reflector
Apparently asteroidal object
Perihelion on 2024 September 30 at 7.28 au
Orbital period of ~720 years with an aphelion of ~150 au
Ref. JPL Small-Body Database Lookup

*2025 BD4*
Discovered on 2025 January 19 at 21st magnitude with the Pan-STARRS1 1.8-m reflector at Haleakala
Pre-discovery observations back to December 2014
Apparently asteroidal object
Perihelion on 2027 July 28 at 11.67 au
Orbital period of ~620 years with an aphelion of ~134 au
Ref. JPL Small-Body Database Lookup

*2025 BY2*
Discovered on 2025 January 19 at 22nd magnitude with the Pan-STARRS1 1.8-m reflector at Haleakala
Pre-discovery observations back to December 2024
Apparently asteroidal object
Perihelion on 2024 December 26 at 4.95 au
Orbital period of ~137 years with an aphelion of ~48 +/- 27 au
Ref. JPL Small-Body Database Lookup

*A/2025 A7*
Discovered on 2025 January 6 at 20th magnitude with the Mt. Lemmon survey's 1.5-m reflector

Has yet to show cometary activity
Perihelion on 2025 March 28 at 2.88 au with a long-period-like eccentricity of 0.99942
Pre-discovery observations from 2024 December 2
Close to its peak brightness
Ref. MPEC 2025-D151

# Comets Between Magnitude 5 and 10

## *SWAN25F*

Discovered visually on 2025 April 1 by Michael Mattiazzo in SOHO SWAN spacecraft data
Dynamically old long-period comet

Orbit (from Jost Jahn's Get NEOCP orbits page)

```
    SWAN25F
Epoch 2025 Apr.  5.0 TT = JDT 2460770.5
T 2025 May  1.15759 TT                                Jahn
q   0.3334105              (2000.0)
                  Peri.  153.85081
                  Node   329.84403
e   0.9999697     Incl.   90.37379
From 126 observations 2024 Sep. 3-Apr. 5, mean residual 0".43.
```

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

```
SWAN25F                                                          Max El
                                                                  (deg)
    Date      R.A.   Decl.     r       d    Elong  Const  Mag  40N  40S
2025-Apr-01  23 07  +21 20   0.855   1.591    28M   Peg   9.7   10    0
2025-Apr-06  23 27  +24 42   0.752   1.456    28M   Peg   9.0   11    0
2025-Apr-11  23 54  +28 21   0.647   1.323    28M   Peg   8.3   10    0
2025-Apr-16  00 30  +32 00   0.542   1.196    26M   And   7.5    8    0
2025-Apr-21  01 21  +34 41   0.444   1.083    24M   And   6.6    4    0
2025-Apr-26  02 26  +34 17   0.366   0.998    21E   Tri   5.7    1    0
2025-May-01  03 32  +28 29   0.333   0.963    19E   Tau   5.3    2    0
2025-May-06  04 19  +18 47   0.363   0.984    20E   Tau   5.6    0    0
```

Comet Magnitude Formula

```
m1 =  9.2 + 5 log d +  8.0 log r [assumed]
where "t" is date of perihelion, "d" is Comet-Earth distance in au, and "r" is Comet-Sun distance in au
```

This newly discovered bright comet has yet to be officially announced and designated, so we will use its provisional designation of SWAN25F for now. News of SWAN25F first appeared on the comets-ml online forum. We'll have to wait for the CBET to tell us the true backstory of the comet's discovery. Still, it appears that ALPO contributor Michael Mattiazzo first reported SWAN25F on April 1, having noticed the comet in SOHO SWAN images going back to March 22. Since being posted on the MPC PCCP, observations have been found from September and October 2024 when the comet was 21-22$^{nd}$ magnitude.

Visual observers are currently reporting the comet to be around magnitude 9.0. Imagers have detected a gas tail up to 0.5 degrees in length. SWAN25F is a low object in the morning sky and is only observable in the northern hemisphere. With perihelion on May 1 at 0.33 au from the Sun, the comet may brighten to magnitude 7.5 by the middle of the month and 5$^{th}$ magnitude by the end of April as it moves through Pegasus (Apr 1-12), Andromeda (12-21), Triangulum (21-27), Perseus (27-29), Aries (29-30), and Taurus (30). By the end of the month, it will have shifted into the evening sky, though it will be even lower setting around the same time as astronomical twilight ends. In May, the comet's 90-degree inclination will see the comet become a southern object and no longer visible from the northern hemisphere.

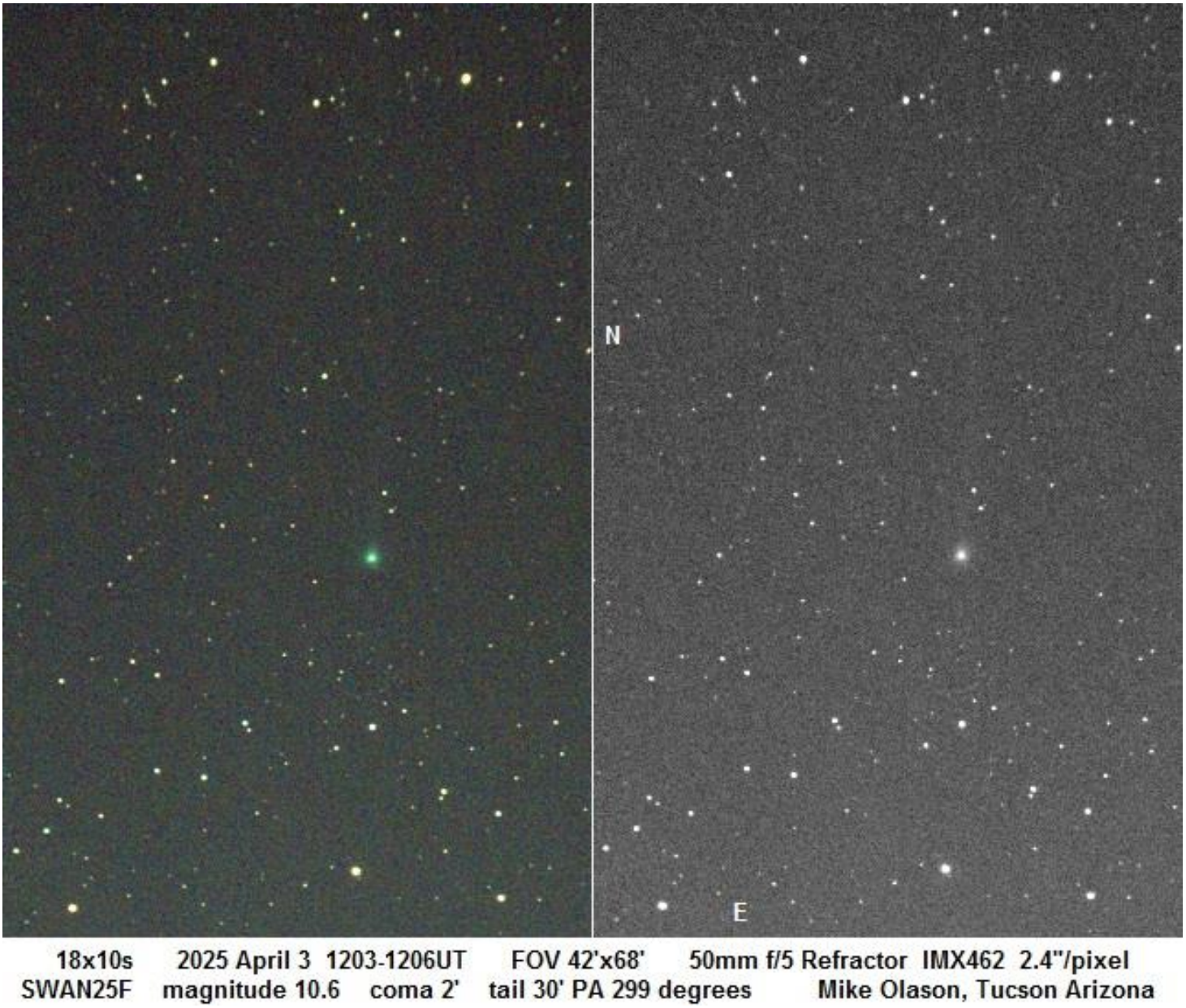


*Figure 2 - Mike Olason (Tucson, AZ) imaged SWAN25F on 2025 April 3 with a 50mm f/5 refractor and IMX462 camera.*

# Comets Between Magnitude 10 and 12

## *29P/Schwassmann-Wachmann*

Discovered 1927 Nov. 15 by Arnold Schwassmann and Arno Arthur Wachmann at Hamburg Observatory in Bergedorf, Germany
Centaur comet with an orbital period of ~14.9 years

Orbit (from Minor Planet Center, MPEC 2025-D44)

```
  29P/Schwassmann-Wachmann
Epoch 2025 May 5.0 TT = JDT 2460800.5
T 2019 May 2.67316 TT                                  Pike
q   5.7941953           (2000.0)            P              Q
n   0.06612305     Peri.   52.12697     +0.98912071     -0.08503138
a   6.0566733      Node   312.40418     +0.01493966     +0.86986245
e   0.0433370      Incl.    9.35598     +0.14634559     +0.48591046
P  14.9
From 14989 observations 2020 Jan. 1-2025 Feb. 20, mean residual 0".6.
     Nongravitational parameters A1 = -1.49, A2 = +2.6734.
```

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

```
29P/Schwassmann-Wachmann                                                Max El
                                                                         (deg)
    Date      R.A.   Decl.     r       d    Elong  Const  Mag  40N   40S
2025-Apr-01  09 38  +10 44   6.270   5.557   131E   Leo  11-13  61    39
2025-Apr-06  09 37  +10 47   6.271   5.620   126E   Leo  11-13  61    39
2025-Apr-11  09 36  +10 50   6.272   5.686   121E   Leo  11-13  61    39
2025-Apr-16  09 36  +10 51   6.272   5.756   116E   Leo  11-13  61    39
2025-Apr-21  09 36  +10 51   6.273   5.830   111E   Leo  11-13  59    39
2025-Apr-26  09 36  +10 50   6.274   5.905   107E   Leo  11-13  57    39
2025-May-01  09 36  +10 48   6.275   5.983   102E   Leo  11-13  54    39
2025-May-06  09 37  +10 44   6.276   6.062    97E   Leo  11-13  50    39
```

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
               (UT)                    T         Dia  DC  LENG  PA
 29        2025 03 31.63  C 14.2 AV 35.0T 6a720   0.9                ICQ XX PEA   Andrew Pearce
 29        2025 03 30.85  S 10.9 TK 20.3T10  77   6    1/            ICQ XX GON05 Juan Jose Gonzalez Suarez
 29        2025 03 30.50  C 14.1 AV 35.0T 6a720   0.9                ICQ XX PEA   Andrew Pearce
 29        2025 03 27.87  S 13.3:TI 53.1L   194   1.5  0/            ICQ XX HAR11 Christian Harder
 29        2025 03 27.87  S 13.3:TI 53.1L   194   1.5  0/            ICQ XX HAR11 Christian Harder
 29        2025 03 26.67  C 12.9 AV 35.0T 6a720   1.3                ICQ XX PEA   Andrew Pearce
 29        2025 03 25.63  C 13.9 AV 35.0T 6a720   0.8                ICQ XX PEA   Andrew Pearce
 29        2025 03 24.62  C 13.8 AV 35.0T 6a720   1                  ICQ XX PEA   Andrew Pearce
 29        2025 03 22.82  S 13.8 TI 53.1L   162   1.5  1             ICQ XX HAR11 Christian Harder
 29        2025 03 22.50  C 13.5 AV 35.0T 6a840   1.2                ICQ XX PEA   Andrew Pearce
 29        2025 03 21.85  S 13.6 TI 53.1L   162   1.6  1             ICQ XX HAR11 Christian Harder
 29        2025 03 20.64  C 11.3 AV 35.0T 6a840   3.5                ICQ XX PEA   Andrew Pearce
 29        2025 03 19.84  S 13.7 TI 53.1L   162   1.5  1             ICQ XX HAR11 Christian Harder
 29        2025 03 19.57  C 11.5 AV 35.0T 6a780   3.5                ICQ XX PEA   Andrew Pearce
 29        2025 03 18.84  S 13.1 TI 53.1L   162   1.6  1             ICQ XX HAR11 Christian Harder
 29        2025 03 17.82  S 13.2 TI 53.1L   139   1.5  1             ICQ XX HAR11 Christian Harder
 29        2025 03 05.08  M 11.8 AQ  30 L 5 100   1.5  2/            ICQ XX DES01
 29        2025 03 04.08  M 11.7 AQ  30 L 5 100   1.5  2             ICQ XX DES01
 29        2025 02 28.93  S 11.3 TI 25.2K    68   2.8  3             ICQ XX HAR11 Christian Harder
 29        2025 02 28.01  S 11.6 TI 25.2L    78   2    1/            ICQ XX HAR11 Christian Harder
```

29P/Schwassmann-Wachmann, formerly Schwassmann-Wachmann 1, was discovered photographically on 1927 November 15 by German astronomers Arnold Schwassmann and Arno Arthur Wachmann. The team of Schwassmann and Wachmann also discovered short-period comets 31P/Schwassmann–Wachmann (2) and 73P/Schwassmann–Wachmann (3) and long-period comet C/1930 D1 (Peltier–Schwassmann–Wachmann).

29P is an evening object in Leo this month. As has been the case over the last few months, the comet was brighter than usual in February at 11-13$^{th}$ magnitude. The reason for the comet's brightness is a series of outbursts occurring every few days to weeks. Since the start of the year, the BAA Mission 29P program has

reported outbursts on January 2, 6,16,18, 21, February 1, 2, and 10, and March 1, 6, 12, 16, 21, and 29, though all of the March outbursts were minor in scale.

If you image 29P, please consider contributing to two pro-am programs spearheading the effort to understand this amazing object better: the British Astronomical Society's (BAA) Mission 29P monitoring program coordinated by Richard Miles. ( https://britastro.org/node/18562 & https://britastro.org/node/25120 ).

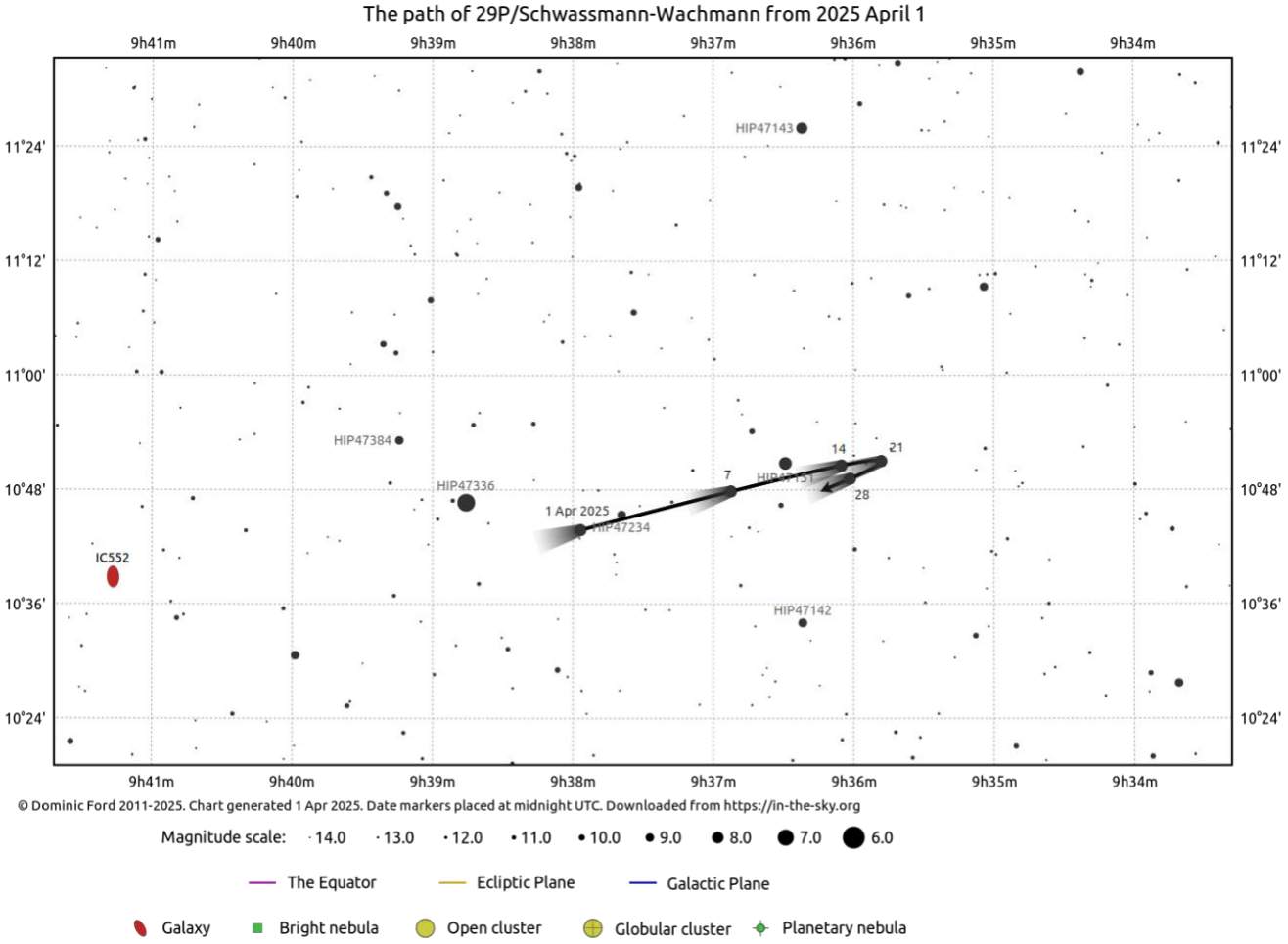


*Figure 3 - Finder chart for 29P/Schwassmann-Wachmann in April 2025 from in-the-sky.org.*

*Figure 4 - 29P/Schwassmann-Wachmann was imaged by Michael Jäger und Gerald Rhemann on 2025 March 20 in a 24 x 90-sec exposure taken with a 14"/4.2 QHY600..*