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### Full list of comets reaching perihelion in 2022

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| Comet                                   | T        | q    | P     | N  | H <sub>1</sub> | K <sub>1</sub> | Peak mag |
|-----------------------------------------|----------|------|-------|----|----------------|----------------|----------|
| 1884 O1 (D/Barnard)                     | Jan 6.3  | 1.30 | 5.40  | 1  | 8.9            | 10.0           |          |
| 1952 B1<br>(D/Harrington-Wilson)        | Sep 21.7 | 1.23 | 5.49  | 1  | 12.0           | 10.0           |          |
| 1997 B1<br>(P/Kobayashi)                | Mar 28.8 | 2.06 | 25.15 | 1  | 12.0           | 10.0           | 17       |
| 2005 E4 (P/SOHO)                        | Feb 24.8 | 0.05 | 5.68  | 2  |                |                |          |
| 2005 G2 (P/SOHO)                        | Jul 9.4  | 0.05 | 5.77  | 2  |                |                |          |
| 2007 A2<br>(P/Christensen)              | Nov 28.9 | 2.80 | 15.96 | 1  | 13.5           | 10.0           | 19       |
| 2007 S1 (P/Zhao)                        | Oct 7.9  | 2.52 | 7.47  | 1  | 13.0           | 10.0           | 18       |
| 2010 TO <sub>20</sub> (P/LINEAR-Grauer) | Nov 29.3 | 5.51 | 14.09 | 1  | 9.0            | 10.0           | 20       |
| 2011 Q3<br>(P/McNaught)                 | Aug 19.5 | 2.32 | 11.08 | 1  | 13.5           | 10.0           | 18       |
| 2011 W1<br>(P/PANSTARRS)                | Feb 7.7  | 3.32 | 10.07 | 1  | 11.5           | 10.0           | 19       |
| 2012 O3<br>(P/McNaught)                 | May 29.8 | 1.61 | 9.78  | 1  | 16.5           | 10.0           | 19       |
| 2013 G4<br>(P/PANSTARRS)                | Jun 19.4 | 2.62 | 9.35  | 1  | 15.0           | 10.0           | 21       |
| 2014 R5 (P/Lemmon-PANSTARRS)            | Aug 18.8 | 2.38 | 8.18  | 1  | 15.0           | 10.0           | 19       |
| 2015 X1<br>(P/PANSTARRS)                | Sep 6.6  | 2.11 | 6.94  | 1  | 16.0           | 10.0           | 20       |
| 2016 J1<br>(P/PANSTARRS)                | Feb 20.7 | 2.45 | 5.65  | 1  | 16.5           | 10.0           | 21       |
| 2017 S8<br>(P/PANSTARRS)                | Sep 16.2 | 1.69 | 4.63  | 1  | 14.8           | 16.0           | 20       |
| 9P/Tempel                               | Mar 4.8  | 1.54 | 5.58  | 13 | 6.6            | 17.8           | 11       |
| 19P/Borrelly                            | Feb 1.8  | 1.31 | 6.84  | 16 | 7.1            | 11.7           | 9        |
| 22P/Kopff                               | Mar 18.1 | 1.55 | 6.38  | 18 | 7.0            | 15.0           | 11       |
| 41P/Tuttle-Giacobini-Kresak             | Sep 13.3 | 1.05 | 5.43  | 11 | 10.8           | 15.9           | 13       |
| 44P/Reinmuth                            | Apr 23.3 | 2.11 | 7.10  | 11 | 8.9            | 10.0           | 14       |
| 45P/Honda-Mrkos-Pajdusakova             | Apr 26.6 | 0.56 | 5.34  | 12 | 11.3           | 13.6           | 9        |
| 51P-Harrington                          | Oct 3.9  | 1.69 | 7.14  | 8  | 10.0           | 10.0           | 12       |
| 61P/Shajn-Schaldach                     | Oct 23.8 | 2.13 | 7.09  | 8  | 9.4            | 10.0           | 13       |
| 73P/Schwassmann-Wachmann                | Aug 25.7 | 0.97 | 5.44  | 8  | 11.5           | 10.0           | 11       |
| 80P/Peters-Hartley                      | Dec 8.9  | 1.62 | 8.07  | 5  | 8.5            | 15.0           | 14       |
| 81P/Wild                                | Dec 15.6 | 1.60 | 6.42  | 7  | 6.6            | 12.3           | 11       |
| 86P/Wild                                | Feb 7.6  | 2.26 | 6.83  | 6  | 8.5            | 15.0           | 15       |
| 97P/Metcalf-Brewington                  | Feb 14.3 | 2.57 | 10.45 | 4  | 5.5            | 15.0           | 13       |
| 99P/Kowal                               | Apr 12.5 | 4.71 | 15.12 | 3  | 4.5            | 15.0           | 17       |
| 100P/Hartley                            | Aug 10.9 | 2.02 | 6.36  | 5  | 9.0            | 10.0           | 13       |
| 104P/Kowal                              | Jan 11.2 | 1.07 | 5.74  | 6  | 9.6            | 9.9            | 9        |
| 107P/Wilson-Harrington                  | Aug 24.8 | 0.97 | 4.25  | 10 | 15.0           | 5.0            | 13       |

|                          |          |      |       |   |      |      |    |
|--------------------------|----------|------|-------|---|------|------|----|
| 113P/Spitaler            | May 29.0 | 2.13 | 7.13  | 6 | 13.5 | 10.0 | 19 |
| 116P/Wild                | Jul 16.9 | 2.20 | 6.52  | 5 | 5.6  | 13.4 | 11 |
| 117P/Helin-Roman-Alu     | Jul 7.7  | 3.04 | 8.25  | 5 | 0.3  | 22.7 | 13 |
| 118P/Shoemaker-Levy      | Nov 24.3 | 1.83 | 6.12  | 5 | 7.1  | 14.1 | 11 |
| 119P/Parker-Hartley      | Aug 12.0 | 2.33 | 7.42  | 4 | 9.0  | 8.0  | 13 |
| 127P/Holt-Olmstead       | Aug 10.5 | 2.21 | 6.42  | 4 | 14.0 | 10.0 | 18 |
| 129P/Shoemaker-Levy      | Dec 8.9  | 3.92 | 8.85  | 4 | 11.0 | 10.0 | 19 |
| 135P/Shoemaker-Levy      | Apr 7.3  | 2.68 | 7.41  | 2 | 6.5  | 20.0 | 16 |
| 148P/Anderson-LINEAR     | Jun 13.7 | 1.63 | 6.88  | 5 | 17.0 | 5.0  | 20 |
| 152P/Helin-Lawrence      | Jan 13.2 | 3.10 | 9.48  | 3 | 11.5 | 10.0 | 18 |
| 157P/Tritton             | Sep 9.8  | 1.57 | 6.67  | 4 | 14.0 | 10.0 | 17 |
| 169P/NEAT                | Jul 9.7  | 0.60 | 4.20  | 7 | 16.0 | 5.0  | 15 |
| 176P/LINEAR              | Nov 21.0 | 2.58 | 5.72  | 2 | 15.0 | 5.0  | 18 |
| 179P/Jedicke             | May 27.9 | 4.12 | 14.48 | 2 | 2.5  | 20.0 | 18 |
| 181P/Shoemaker-Levy      | Jan 8.8  | 1.16 | 7.62  | 3 | 10.5 | 10.0 | 12 |
| 182P/LONEOS              | May 12.7 | 1.00 | 5.08  | 3 | 18.0 | 10.0 | 19 |
| 189P/NEAT                | Aug 28.8 | 1.21 | 5.06  | 4 | 19.0 | 10.0 | 19 |
| 196P/Tichy               | Oct 29.4 | 2.18 | 7.42  | 3 | 13.5 | 10.0 | 17 |
| 197P/LINEAR              | Dec 7.4  | 1.06 | 4.86  | 3 | 16.5 | 5.0  | 18 |
| 204P/LINEAR-NEAT         | Nov 16.9 | 1.83 | 6.78  | 3 | 12.0 | 10.0 | 15 |
| 205P/Giacobini           | Jan 13.4 | 1.53 | 6.67  | 3 | 10.0 | 10.0 | 14 |
| 211P/Hill                | Oct 4.6  | 2.33 | 6.68  | 3 | 12.5 | 10.0 | 18 |
| 214P/LINEAR              | Sep 26.2 | 1.86 | 6.89  | 2 | 13.0 | 10.0 | 18 |
| 224P/LINEAR-NEAT         | Sep 29.9 | 2.03 | 6.38  | 2 | 15.5 | 10.0 | 19 |
| 230P/LINEAR              | Mar 19.3 | 1.57 | 6.41  | 4 | 13.0 | 10.0 | 17 |
| 238P/Read                | Jun 5.5  | 2.37 | 5.64  | 3 | 14.5 | 10.0 | 19 |
| 244P/Scotti              | Nov 17.3 | 3.92 | 10.83 | 2 | 9.0  | 10.0 | 17 |
| 255P/Levy                | Sep 1.9  | 0.82 | 5.02  | 2 | 9.0  | 10.0 | 9  |
| 259P/Garradd             | Feb 8.4  | 1.81 | 4.51  | 3 | 15.5 | 10.0 | 20 |
| 272P/NEAT                | Jul 17.1 | 2.43 | 9.42  | 2 | 16.0 | 10.0 | 22 |
| 274P/Tombaugh-Tenagra    | Apr 8.5  | 2.45 | 9.15  | 3 | 13.0 | 10.0 | 18 |
| 286P/Christensen         | May 12.6 | 2.36 | 8.33  | 2 | 14.0 | 10.0 | 19 |
| 288P/Spacewatch (300163) | Mar 3.7  | 2.43 | 5.32  | 4 | 16.0 | 5.0  | 19 |
| 319P/Catalina-McNaught   | Mar 31.4 | 1.19 | 6.74  | 2 | 15.0 | 10.0 | 17 |
| 325P/Yang-Gao            | Mar 29.2 | 1.43 | 6.61  | 2 | 15.0 | 10.0 | 17 |
| 327P/Van Ness            | Sep 2.4  | 1.56 | 6.73  | 2 | 16.0 | 10.0 | 17 |
| 335P/Gibbs               | Aug 12.0 | 1.62 | 6.77  | 2 | 17.0 | 10.0 | 21 |
| 337P/WISE                | Jul 1.2  | 1.65 | 5.96  | 2 | 17.0 | 10.0 | 18 |
| 348P/PANSTARRS           | Feb 10.1 | 2.18 | 5.59  | 2 | 14.0 | 10.0 | 18 |
| 382P/Larson              | Feb 17.4 | 4.42 | 16.46 | 1 | 8.0  | 10.0 | 17 |
| 408P/Novichonok-Gerke    | Oct 5.0  | 3.47 | 10.33 | 1 | 11.0 | 10.0 | 18 |
| 429P/LINEAR-Hill         | Jan 2.1  | 1.81 | 6.69  | 1 | 13.2 | 10.0 | 16 |
| 420P/Hill                | May 22.5 | 2.79 | 13.02 | 1 | 11.5 | 10.0 | 17 |
| 422P/Christensen         | Jan 13.8 | 3.11 | 15.89 | 1 | 11.0 | 10.0 | 18 |
| 431P/Scotti              | Feb 13.3 | 1.81 | 6.47  | 2 | 14.0 | 10.0 | 18 |
| 2017 K2 (PANSTARRS)      | Dec 19.7 | 1.80 |       |   | 4.3  | 6.8  | 8  |
| 2019 K3 (P/Larson)       | Feb 17.4 | 4.42 | 16.46 | 0 | 8.0  | 10.0 | 17 |
| 2019 L3 (ATLAS)          | Jan 9.6  | 3.55 |       |   | 4.5  | 10.0 | 12 |
| 2019 T4 (ATLAS)          | Jun 9.2  | 4.24 |       |   | 7.0  | 8.0  | 15 |
| PanSTARRS (2020 R2)      | Feb 24.6 | 4.69 |       |   | 10.0 | 8.0  | 18 |

|                     |          |      |      |   |      |      |    |
|---------------------|----------|------|------|---|------|------|----|
| ATLAS (2020 R7)     | Sep 4.8  | 2.96 |      |   | 7.0  | 8.0  | 13 |
| PanSTARRS (2020 U4) | Apr 8.0  | 5.35 |      |   | 9.0  | 8.0  | 18 |
| PanSTARRS (2020 U5) | Apr 28.1 | 3.76 |      |   | 9.5  | 8.0  | 17 |
| ATLAS (2020 Y2)     | Jun 17.7 | 3.13 |      |   | 6.5  | 10.0 | 14 |
| Leonard (2021 A1)   | Jan 3.3  | 0.62 |      |   | 8.6  | 10.5 | 4  |
| ZTF (2021 D2)       | Feb 4.2  | 2.94 |      |   | 9.0  | 10.0 | 16 |
| ZTF (2021 E3)       | Jun 11.9 | 1.78 |      |   | 8.5  | 10.0 | 11 |
| A/(2021 E4)         | Apr 25.4 | 4.68 |      |   | 13.5 | 5.0  | 20 |
| A/(2021 F1)         | Apr 6.9  | 1.00 |      |   | 17.5 | 5.0  | 19 |
| Catalina (2021 K3)  | Feb 2.8  | 5.23 |      |   | 10.0 | 10.0 | 21 |
| Borisov (2021 L3)   | Mar 12.3 | 8.40 |      |   | 6.0  | 10.0 | 20 |
| PanSTARRS (2021 O3) | Apr 20.5 | 0.29 |      |   | 10.0 | 10.0 | 5  |
| PanSTARRS (2021 P1) | Jun 1.5  | 4.38 |      |   | 11.0 | 10.0 | 21 |
| ATLAS (2021 P4)     | Jul 31.7 | 1.09 |      |   | 9.5  | 10.0 | 11 |
| ATLAS (2021 Q3)     | Jan 23.2 | 5.22 |      |   | 8.0  | 10.0 | 19 |
| P/Rankin (2021 R5)  | Jan 10.0 | 3.33 | 10.5 | 0 | 12.0 | 10.0 | 20 |
| ATLAS (2021 S1)     | Jan 29.5 | 6.14 |      |   | 7.0  | 10.0 | 19 |
| Fuls (2021 T2)      | Jun 7.6  | 1.24 |      |   | 12.0 | 10.0 | 13 |

The date of perihelion (T), perihelion distance (q), period (P), the number of previously observed returns (N), the magnitude parameters  $H_1$  and  $K_1$  and the brightest magnitude (which must be regarded as uncertain) are given for each comet. The magnitudes, orbits, and in particular the time of perihelion of the D/ comets are uncertain. The SOHO comets are only likely to be observed by satellite and some of the linkages are uncertain.

Note:  $m_1 = H_1 + 5.0 * \log(d) + K_1 * \log(r)$

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