

* NOVA *

N. 1726 - 18 APRILE 2020

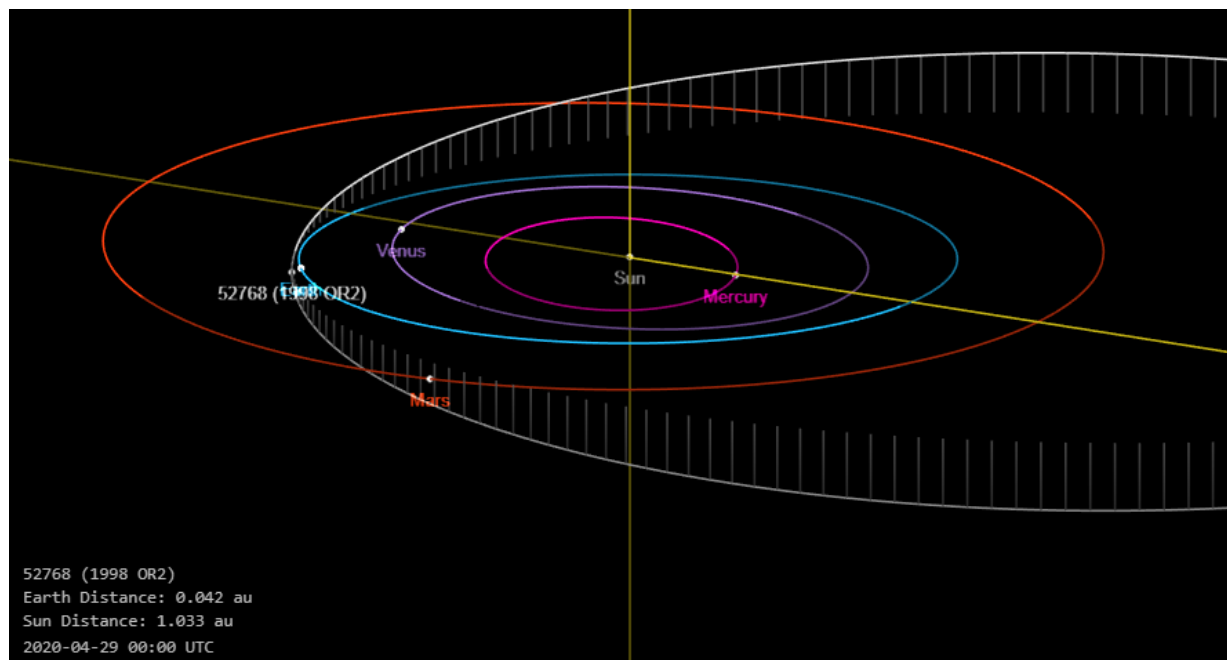
ASSOCIAZIONE ASTROFILI SEGUSINI

ASTEROIDE (52768) 1998 OR2

Il 29 aprile 2020 l'asteroide (52768) 1998 OR2, con un diametro stimato da 1.8 a 4.1 chilometri, si avvicinerà alla Terra. Non costituirà comunque una minaccia per la Terra: al suo approccio più vicino, intorno alle 9:56 UTC, l'asteroide transiterà a 6.3 milioni di km dalla Terra: più di 16 volte la distanza media tra la Terra e la Luna.

Se un asteroide di quelle dimensioni si schiantasse sul nostro pianeta sarebbe un serio problema per la regione colpita. L'asteroide 1998 OR2, che orbita attorno al Sole tra le orbite della Terra e di Marte, non si avvicinerà di nuovo alla Terra fino al 18 maggio 2031, e sarà più lontano, passando a circa 19 milioni di km dal nostro pianeta, secondo la NASA. E i passaggi successivi, nel 2048 e nel 2062, saranno ancora più lontani. Il sorvolo più vicino nel prossimo futuro sarà il 16 aprile 2079, quando sarà a soli 1.8 milioni di km di distanza.

La NASA ha classificato l'asteroide 1998 OR2 come "potenzialmente pericoloso" (PHA, *potentially hazardous asteroid*) non perché metta in pericolo la Terra, ma perché soddisfa determinati criteri classificativi. Secondo la NASA un asteroide si qualifica come "potenzialmente pericoloso" se la sua orbita può intersecare l'orbita terrestre a una distanza uguale o inferiore a 7.5 milioni di km (0.05 unità astronomiche) e ha una magnitudine assoluta (H) di 22.0 (o ha un diametro superiore ai 140 m, considerando un albedo del 14%).



Orbita dell'asteroide (52768) 1998 OR2 (NASA/JPL), <https://ssd.jpl.nasa.gov/sbdb.cgi?sstr=52768>

https://cneos.jpl.nasa.gov/about/neo_groups.html

<https://earthsky.org/astronomy-essentials/asteroid-52768-1998-or2-april-2020-how-to-see>

www.space.com/asteroid-1998-or2-earth-flyby-april-2020.html

NEWSLETTER TELEMATICA APERIODICA DELL'A.A.S. PER SOCI E SIMPATIZZANTI - ANNO XV

La Nova è pubblicazione telematica aperiodica dell'A.A.S. - Associazione Astrofili Segusini di Susa (TO) riservata a Soci e Simpatizzanti.

È pubblicata senza alcuna periodicità regolare (v. Legge 7 marzo 2001, n. 62, art. 1, comma 3) e pertanto non è sottoposta agli obblighi previsti dalla Legge 8 febbraio 1948, n. 47, art. 5. I dati personali utilizzati per l'invio telematico della Nova sono trattati dall'AAS secondo i principi del Regolamento generale sulla protezione dei dati (GDPR - Regolamento UE 2016/679).

www.astrofilisusa.it

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*****
Ephemeris / WWW_USER Mon Apr 13 12:02:10 2020 Pasadena, USA      / Horizons
*****
Target body name: 52768 (1998 OR2)                                {source: JPL#260}
Center body name: Earth (399)                                     {source: DE431}
Center-site name: Grange Observatory, Bussoleno
*****
Start time      : A.D. 2020-Apr-14 20:00:00.0000 UT
Stop time       : A.D. 2020-May-31 20:00:00.0000 UT
Step-size       : 1440 minutes
*****
*****
Date__ (UT)__HR:MN      R.A.____ (ICRF)____ DEC Azi_ (a-appr) Elev  APmag    S-O-T /r
*****
2020-Apr-14 20:00 A    08 29 36.46 +27 32 52.4 233.6448  64.6389  13.14  97.8463 /T
2020-Apr-15 20:00 A    08 34 07.43 +26 05 26.1 231.3276  63.5799  13.03  98.2346 /T
2020-Apr-16 20:00 A    08 39 02.36 +24 27 45.0 228.7988  62.4026  12.90  98.7709 /T
2020-Apr-17 20:00 A    08 44 24.10 +22 38 13.5 226.0518  61.0785  12.77  99.4773 /T
2020-Apr-18 20:00 A    08 50 15.91 +20 35 01.0 223.0840  59.5735  12.63 100.3789 /T
2020-Apr-19 20:00 A    08 56 41.52 +18 16 01.7 219.8984  57.8469  12.47 101.5044 /T
2020-Apr-20 20:00 A    09 03 45.17 +15 38 55.6 216.5055  55.8518  12.31 102.8846 /T
2020-Apr-21 20:00 A    09 11 31.68 +12 41 12.9 212.9236  53.5358  12.14 104.5516 /T
2020-Apr-22 20:00 A    09 20 06.47 +09 20 24.0 209.1803  50.8437  11.96 106.5356 /T
2020-Apr-23 20:00 A    09 29 35.52 +05 34 17.3 205.3122  47.7225  11.77 108.8600 /T
2020-Apr-24 20:00 A    09 40 05.35 +01 21 27.6 201.3632  44.1294  11.58 111.5334 /T
2020-Apr-25 20:00 Am   09 51 42.86 -03 18 03.3 197.3829  40.0439  11.40 114.5392 /T
2020-Apr-26 20:00 Am   10 04 34.97 -08 21 59.8 193.4229  35.4813  11.22 117.8244 /T
2020-Apr-27 20:00 Am   10 18 48.20 -13 45 11.2 189.5335  30.5054  11.07 121.2910 /T
2020-Apr-28 20:00 Am   10 34 27.82 -19 19 18.5 185.7602  25.2334  10.94 124.7972 /T
2020-Apr-29 20:00 Am   10 51 36.84 -24 53 29.7 182.1416  19.8271  10.85 128.1732 /T
2020-Apr-30 20:00 Am   11 10 14.68 -30 15 48.3 178.7073  14.4706  10.80 131.2525 /T
2020-May-01 20:00 Am   11 30 15.79 -35 15 09.6 175.4781   9.3388  10.79 133.9065 /T
2020-May-02 20:00 Am   11 51 28.53 -39 43 02.4 172.4660   4.5712  10.82 136.0701 /T
2020-May-03 20:00 Am   12 13 34.79 -43 34 24.7 169.6755   0.2578  10.88 137.7454 /T
2020-May-04 20:00 Am   12 36 10.82 -46 47 43.0 167.1052  -3.5611  10.96 138.9872 /T

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Column meaning:

TIME

Times PRIOR to 1962 are UT1, a mean-solar time closely related to the prior but now-deprecated GMT. Times AFTER 1962 are in UTC, the current civil or "wall-clock" time-scale. UTC is kept within 0.9 seconds of UT1 using integer leap-seconds for 1972 and later years.

Conversion from the internal Barycentric Dynamical Time (TDB) of solar system dynamics to the non-uniform civil UT time-scale requested for output has not been determined for UTC times after the next July or January 1st.

Therefore, the last known leap-second is used as a constant over future intervals.

Time tags refer to the UT time-scale conversion from TDB on Earth regardless of observer location within the solar system, although clock rates may differ due to the local gravity field and no analog to "UT" may be defined for that location.

Any 'b' symbol in the 1st-column denotes a B.C. date. First-column blank (" ") denotes an A.D. date. Calendar dates prior to 1582-Oct-15 are in the Julian calendar system. Later calendar dates are in the Gregorian system.

NOTE: "n.a." in output means quantity "not available" at the print-time.



SOLAR PRESENCE (OBSERVING SITE)

Time tag is followed by a blank, then a solar-presence symbol:

'*' Daylight (refracted solar upper-limb on or above apparent horizon)
'C' Civil twilight/dawn
'N' Nautical twilight/dawn
'A' Astronomical twilight/dawn
' ' Night OR geocentric ephemeris

LUNAR PRESENCE (OBSERVING SITE)

The solar-presence symbol is immediately followed by a lunar-presence symbol:

'm' Refracted upper-limb of Moon on or above apparent horizon
' ' Refracted upper-limb of Moon below apparent horizon OR geocentric ephemeris

R.A. _____ (ICRF) _____ DEC =

Astrometric right ascension and declination of the target center with respect to the observing site (coordinate origin) in the reference frame of the planetary ephemeris (ICRF). Compensated for down-leg light-time delay aberration.

Units: RA in hours-minutes-seconds of time (HH MM SS.ff)

DEC in degrees-minutes-seconds of arc (sDD MN SC.f)

Azi_(a-appr)_Elev =

Airless apparent azimuth and elevation of target center. Compensated for light-time, the gravitational deflection of light, stellar aberration, precession and nutation. Azimuth is measured clockwise from north:

North(0) -> East(90) -> South(180) -> West(270) -> North (360)

Elevation angle is with respect to a plane perpendicular to the reference surface local zenith direction. TOPOCENTRIC ONLY. Units: DEGREES

APmag =

Asteroid's approximate apparent visual magnitude from the standard IAU H-G magnitude relationship:

$APmag = H + 5 \cdot \log_{10}(\delta) + 5 \cdot \log_{10}(r) - 2.5 \cdot \log_{10}((1-G) \cdot \phi_{11} + G \cdot \phi_{12})$.

For solar phase angles > 90 deg, the error could exceed 1 magnitude. For phase angles > 120 degrees, output values are rounded to the nearest integer to indicate error could be large and unknown.

Units: MAGNITUDE

S-O-T /r =

Sun-Observer-Target angle; target's apparent SOLAR ELONGATION seen from the observer location at print-time. Angular units: DEGREES

The '/r' column indicates the target's apparent position relative to the Sun in the observer's sky, as described below:

For an observing location on the surface of a rotating body (considering its rotational sense):

/T indicates target TRAILS Sun (evening sky; rises and sets AFTER Sun)

/L indicates target LEADS Sun (morning sky; rises and sets BEFORE Sun)

For an observing point NOT on a rotating body (such as a spacecraft), the "leading" and "trailing" condition is defined by the observer's heliocentric orbital motion: if continuing in the observer's current direction of heliocentric motion would encounter the target's apparent longitude first, followed by the Sun's, the target LEADS the Sun as seen by the observer. If the Sun's apparent longitude would be encountered first, followed by the target's, the target TRAILS the Sun.

NOTE: The S-O-T solar elongation angle is numerically the minimum separation angle of the Sun and target in the sky in any direction. It does NOT indicate the amount of separation in the leading or trailing directions, which are defined in the equator of a spherical coordinate system.

Computations by ...

Solar System Dynamics Group, Horizons On-Line Ephemeris System

4800 Oak Grove Drive, Jet Propulsion Laboratory - Pasadena, CA 91109 USA

Information: <http://ssd.jpl.nasa.gov/>

Connect : telnet://ssd.jpl.nasa.gov:6775 (via browser)

telnet ssd.jpl.nasa.gov 6775 (via command-line)

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