jg0001

1. The chronological number (N)
2. The number of the series (N ser)
3. The number of the photographic plate (N plate, 9999 if unknown)
4. X coordinate of J1-Io in micrometer (zero if not observed).
5. X coordinate of J2-Europe in micrometer (zero if not observed).
6. X coordinate of J3-Ganymede in micrometer (zero if not observed).
7. X coordinate of J4-Callisto in micrometer (zero if not observed).
8. Y coordinate of J1-Io in micrometer (zero if not observed).
9. Y coordinate of J2-Europe in micrometer (zero if not observed).
10. Y coordinate of J3-Ganymede in micrometer (zero if not observed).
11. Y coordinate of J4-Callisto in micrometer (zero if not observed).
12. The number of the satellites on the exposure (N sats).
13. The factor of the plate scale in arseconds per millimeter (Factor).
14. Origin of the coordinates (Origin) ,

* 0: observed Jupiter,
* i: satellite number i,
* 5: the gravity center of the observed satellites.
* 6: arbitrary theoretical Jupiter

jg0002

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Number of satellite (N sat)
5. Number of reference satellite (N ref)
6. X, arcsec
7. Y, arcsec
8. O-C(X)e for alpha, arcsec
9. O-C(Y)e for delta, arcsec

jg0003

1. Number of satellite (see numbering above)
2. The julian date with decimals of observation (JD)
3. Hour with decimals of right ascension (alpha, hours)
4. Degree with decimals of declination (delta, degrees) or blank
5. Observed magnitude (V HAMC) or blank (Mag)

jg0004

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. JD of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jg0005

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jg0006

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jg0007

1. Number of reference satellite (N ref)
2. Number of satellite (N sat)
3. Year of the observation
4. Month of the observation
5. Day of the observation
6. Hour of Cape sideral time of observation
7. Minute of Cape sideral time of observation
8. Seconde of Cape sideral time of observation
9. Hour of Grinwich Mean Time of observation (UT1=GMT+12h)
10. Minute of Grinwich Mean Time of observation with decimals
11. Type of coordinate (10 - apparent distance,

* 1 - position angle)

1. Apparent distance, arcsec (0.000 if type is 1)
2. Degrees of position angle (0 if type is 10)
3. Minutes of arc of position angle (0 if type is 10)
4. Arcseconds of position angle (0 if type is 10)

jg0008

1. Number of reference satellite (N ref)
2. Number of satellite (N sat)
3. Year of the observation
4. Month of the observation
5. Day of the observation
6. Hour of Cape sideral time of observation
7. Minute of Cape sideral time of observation
8. Seconde of Cape sideral time of observation
9. Refraction correction applied, arcseconds.
10. Type of coordinate (10 - apparent distance,

* 1 - position angle)

1. Apparent distance, arcsec (0.000 if type is 1)
2. Degrees of position angle (0 if type is 10)
3. Minutes of arc of position angle (0 if type is 10)
4. Arcseconds of position angle (0 if type is 10)

jg0009

1. Type of coordinate (1 - position angle,

* 2 - apparent distance)

1. Number of reference satellite (N ref)
2. Number of satellite (N sat)
3. Number of line in the table
4. Year of the observation
5. Month of the observation
6. Day of the observation
7. Hour of time of observation
8. Minute of time of observation
9. Seconde of time of observation
10. Apparent distance, arcsec (if Type is 2)

* or position angle, degrees (if Type is 1)

jg0010

1. Number of observation
2. Number of the CCD
3. Year of the observation
4. Month of the observation
5. Day of the observation
6. Hour of time of observation (UTC-3h)
7. Minute of time of observation
8. Seconde of time of observation
9. Number of satellite (N sat)
10. X observed, arcsec
11. Y observed, arcsec
12. X calculated, arcsec
13. Y calculated, arcsec
14. (O-C) X observed - X calculated, arcsec
15. (O-C) Y observed - Y calculated, arcsec

jg0011

1. Number of satellite (N sat)
2. JD of the moment of observation with decimals
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg), with sign
7. Minute of declination (delta, ' )
8. Second of declination (delta, '' )

jg0012

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jg0013

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minute of the moment of observation
6. Second of the moment of observation with decimals
7. (N f) Code of the reference frame:

* 1 = mean terrestrial equatorial frame, 1950,
* 2 = Jovian equatorial frame of the date,
* 3 = others special frames.

1. (N c) Code of referential center:

* 1 = arbitrary point supposed to be the center of the plate,
* origin of tangential coordinates,
* 2 = center of observed Jupiter.

1. (Obs code) Code of observatories
2. X, arcsec for satellite J1 ( - if absent)
3. X, arcsec for satellite J2 ( - if absent)
4. X, arcsec for satellite J3 ( - if absent)
5. X, arcsec for satellite J4 ( - if absent)
6. Y, arcsec for satellite J1 ( - if absent)
7. Y, arcsec for satellite J2 ( - if absent)
8. Y, arcsec for satellite J3 ( - if absent)
9. Y, arcsec for satellite J4 ( - if absent)
10. (Scale) The plate scale in arsecond per millimeter
11. (N ser) The number of series of observations
12. (N obs) Number of the observer
13. (N opp) The number of year of opposition of Jupiter.

jg0014

1. (Code of obs) Code of observatory (see above)
2. (Ref sat) Reference satellite (eclipsing or occulting)
3. (Type of ev.) Type of mutual phenomena: o - occultation, e - eclipse
4. Subject satellite (eclipsed or occulted)
5. Year of the moment of observation
6. Day (!) of the moment of observation
7. Month of the moment of observation
8. Hour of the moment of observation
9. Minute of the moment of observation
10. Second of the moment of observation with decimals
11. (DT) Time correction, see article (correction to the midtime taken

* without the phase correction), s

1. (Dx) Longitude correction to Sampson's (1921) theory, km
2. (Dz) Latitude correction to Sampson's (1921) theory, km
3. (D(R.A.)) Separation between the satellites

* (subject satellite - reference satellite) in right ascension, arcsec
* (geocentric for occultation, heliocentric for eclipse)

1. (D(decl.)) Separation between the satellites

* (subject satellite - reference satellite) in declination, arcsec
* (geocentric for occultation, heliocentric for eclipse)

1. (JED) Ephemeris time at Jupiter
2. (PH1) Orbital phase angle, degrees (geocentric for occultation,

* heliocentric for eclipse)

1. (PH2) Orbital phase angle, degrees (geocentric for occultation,

* heliocentric for eclipse)

1. (Weight) Weights calculated according to a formula

* discussed by Aksnes and Franklin (1976)

1. (N) Note (if equal to 1) that latitude correction is not accurate

* (see article, it corresponds to the apperance of Dz in parentheses
* in the table in the article)

jg0016

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Number of satellite (N sat)
5. X, arcsec
6. Y, arcsec

jg0017

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minutes of the moment of observation
6. Secondes of the moment of observation
7. Number of satellite (N sat): J1 - 1, J2 - 2, J3 - 3, J4 - 4,

* Io\_Sadow - 1001, Ganymede\_Shadow - 1003.

1. Wave length, nm
2. X, arcsec
3. Y, arcsec

jg0018

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. N telescope
12. N observer

jg0019

1. Number of satellite (N sat): 1 -J1, 2 - J2, 3 - J3, 4 - J4
2. JD of observation with decimals (UTC)
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, '' )

jg0020

1. Na - number of eclipsing satellite
2. Np - number of eclipsed satellite
3. OBS - number of observatory (from Minor Planet Center)
4. MJD - time of topocentric observation (MJD=JD-2400000.5), TT
5. X" - Delta(alpha)\*cos(delta) heliocentric, arcsec
6. Y" - Delta(delta) heliocentric, arcsec
7. R - heliocentric distance of eclipsing satellite, au
8. ta - time of the light start at the eclipsing satellite (MJD=JD-2400000.5), TT
9. tp - time of the light reflectance at the eclipsed satellite (MJD=JD-2400000.5), TT
10. X(0) - difference of the planetocentric rectangular coordinates

* (eclipsing satellite "minus" eclipsed one)   
    
   in the event plane (see reference), km

1. Y(0) - difference of the planetocentric rectangular coordinates

* (eclipsing satellite "minus" eclipsed one)   
    
   in the event plane (see reference), km

1. ax - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
2. ay - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
3. bx - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
4. by - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
5. bz - the coefficient required for application of the coordinates X(0), Y(0) (see reference)

jg0021

1. Na - number of occulting satellite
2. Np - number of occulted satellite
3. OBS - number of observatory (from Minor Planet Center)
4. MJD - time of topocentric observation (MJD=JD-2400000.5), TT
5. X" - Delta(alpha)\*cos(delta) topocentric, arcsec
6. Y" - Delta(delta) topocentric, arcsec
7. R - topocentric distance of occulting satellite, au
8. ta - time of the light start at the occulting satellite (MJD=JD-2400000.5), TT
9. tp - time of the light reflectance at the occulted satellite (MJD=JD-2400000.5), TT
10. X(0) - difference of the planetocentric rectangular coordinates

* (occulting satellite "minus" occulted one)   
    
   in the event plane (see reference), km

1. Y(0) - difference of the planetocentric rectangular coordinates

* (occulting satellite "minus" occulteded one)   
    
   in the event plane (see reference), km

1. ax - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
2. ay - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
3. bx - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
4. by - the coefficient required for application of the coordinates X(0), Y(0) (see reference)
5. bz - the coefficient required for application of the coordinates X(0), Y(0) (see reference)

jg0022

1. Number of satellite (N sat): 1 -J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation (UTC)
6. Minute of the moment of observation (UTC)
7. Second of the moment of observation (UTC)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jg0023

1. Number of satellite (N sat): 1 -J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation (UTC)
6. Minute of the moment of observation (UTC)
7. Second of the moment of observation (UTC)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jg0024

1. Number of satellite (N sat): 3 - J3, 4 - J4
2. JD of observation with decimals (UTC)
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, '' )
9. Error index: 0 - internal error is less than 0.75 arcsec

* 1 - internal error is greater than 0.75 arcsec

1. V magnitude (blank if not given)

jg0025

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here n\_a is the number of the occulting or eclipsing satellite
* and n\_p is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

'0' for normally determined coordinates,  
  
'1' for the cases where the result of the observations  
  
 at the given observatory differs considerably from the results  
  
 of other observatories,   
  
'2' for the results obtained from poor photometric data.

1. The minimum level S min of normalized flux.

jg0026

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here n\_a is the number of the occulting or eclipsing satellite
* and n\_p is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from poor photometric data

jg0027

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

'0' for normally determined coordinates,  
  
'1' for the cases where the result of the observations  
  
 at the given observatory differs considerably from the results  
  
 of other observatories,   
  
'2' for the results obtained from poor photometric data.

1. The minimum level S min of normalized flux.

jg0028

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from poor photometric data

jg0029

1. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here n\_a is the number of the occulting or eclipsing satellite
* and n\_p is the number of the occulted or eclipsed satellite.

1. Day of observation
2. Month of observation
3. Year of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Shift of the computed curve along the time axis required to fit the observations (DX), km
8. Impact paramerter (IP), km
9. O-C of Impact paramerter (O-C,IP), km
10. Delta(alpha)\*cos(delta) (X), arcsec
11. Delta(delta) (Y), arcsec
12. The orbital longitude of the occulting/eclipsing satellite,

* geocentric for occultations and heliocentric for eclipses (F1)

1. The orbital longitude of the occulted/eclipsed satellite,

* geocentric for occultations and heliocentric for eclipses (F2)

1. Observatory name.

jg0030

1. N. of plate
2. Number of satellite (1- J1, 2 - J2, 3 - J3, 4 - J4), N sat.
3. Year of observation
4. Month of observation
5. Day of observation with decimals (UTC)
6. X, arcsec
7. Y, arcsec
8. O-C\_X, arcsec
9. O-C\_Y, arcsec

jg0031

1. Number of satellite (1- J1, 2 - J2, 3 - J3, 4 - J4), N sat.
2. Number of reference satellite (1- J1, 2 - J2, 3 - J3, 4 - J4), N sat.
3. Year of observation
4. Month of observation
5. Day of observation with decimals (UTC)
6. X, arcsec
7. Y, arcsec
8. O-C\_X, arcsec
9. O-C\_Y, arcsec

jg0032

1. Number of satellite (N sat): 1 - J1-Io, 2 - J2-Europe, 3 - J3-Ganymede, 4 - J4-Callisto
2. JD of the moment of observation
3. Year of the moment of observation
4. Month of the moment of observation
5. Day of the moment of observation with decimals
6. Hour of right ascension (alpha, h)
7. Minute of right ascension (alpha, m)
8. Second of right ascension (alpha, s) with decimals
9. Degree of declination (delta, deg)
10. Minute of declination (delta, ' )
11. Second of declination (delta, '' ) with decimals

jg0033

1. Number of satellite (N sat): 1 - J1-Io, 2 - J2-Europe, 3 - J3-Ganymede, 4 - J4-Callisto
2. JD of the moment of observation
3. Year of the moment of observation
4. Month of the moment of observation
5. Day of the moment of observation with decimals
6. X, arcsec
7. Y, arcsec
8. Epoch of equinox (0 - true of date or 2000.0)
9. Number of the telescope (N tel): 1 - P26, 2 - LPT.
10. Observatory (MPC code)

jg0034

1. Number of satellite (N sat): 1 - J1 Io, 2 - J2 Europa, 3 - J3 Ganymede, 4 - J4 Callisto
2. Number of reference satellite (N ref): 1 - J1 Io, 2 - J2 Europa, 3 - J3 Ganymede, 4 - J4 Callisto
3. JD of the moment of observation
4. Year of the moment of observation
5. Month of the moment of observation
6. Day of the moment of observation with decimals
7. X, arcsec
8. Y, arcsec
9. Epoch of equinox (1950.0 or 2000.0)
10. Number of the telescope (N tel): 1 - P26, 2 - PNA.
11. Type of receiver (Rec): 1 - photographic, 2 - CCD.

jg0035

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

'0' for normally determined coordinates,  
  
'1' for the cases where the result of the observations  
  
 at the given observatory differs considerably from the results  
  
 of other observatories,   
  
'2' for the results obtained from poor photometric data.

1. The minimum level S min of normalized flux.

jg0036

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from poor photometric data

jg0037

1. Number of object satellite (Nsat): 1 - J1-Io, 2 - J2-Europe, 3 - J3-Ganymede, 4 - J4-Callisto
2. Number of reference satellite (Nref): 2 - J2-Europe, 3 - J3-Ganymede, 4 - J4-Callisto
3. Year of the moment of observation
4. Month of the moment of observation
5. Day of the moment of observation with decimals
6. Delta(alpha), arcsec
7. Delta(delta), arcsec
8. O-C in X, arcsec (Lainey et al. 2009).
9. O-C in Y, arcsec (Lainey et al. 2009).

jg0038

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code see the table above.
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - normal result,
* Q=1 - doubtful photometric data
* Q=2 - result following from low quality photometry.
* Q=3 - result is very different from other observatory one.

1. The minimum level S min of normalized flux.

jg0039

1. Year of observation
2. Month of observation
3. Day of observation
4. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Observatory code (see the table in the relevant article).
2. Hour of the astrometric data (UTC)
3. Minute of the astrometric data (UTC)
4. Seconde of the astrometric data with decimals (UTC)
5. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from poor photometric data

jg0040

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minute of the moment of observation
6. Second of the moment of observation
7. Hour of right ascension (alpha, h)
8. Minute of right ascension (alpha, m)
9. Second of right ascension (alpha, s)
10. Degree of declination (delta, deg)
11. Minute of declination (delta, ' )
12. Second of declination (delta, '' )
13. Number of satellite (N sat)
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]
15. Name od catalogue used for reduction (cat)

jg0041

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]
16. NOFS Telescope/Reference Catalog

jg0042

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minute of the moment of observation
6. Second of the moment of observation
7. Hour of right ascension (alpha, h)
8. Minute of right ascension (alpha, m)
9. Second of right ascension (alpha, s)
10. Degree of declination (delta, deg)
11. Minute of declination (delta, ' )
12. Second of declination (delta, '' )
13. Number of satellite (N sat)
14. Name of star catalog used

jg0043

1. The moment of observation, JD, UTC
2. Number of satellite (N sat): 1 - Io, 2 - Europa, 3 - Ganymede
3. Right ascension (degrees)
4. Declination (degrees)

jg0044

1. Number of satellite (N sat): 1 - J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s) with decimals
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' ) with decimals

jg0045

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3, 4 - J4
2. Julian date of the moment of observation
3. Year of the moment of observation
4. Month of the moment of observation
5. Day of the moment of observation with decimals
6. Hour of right ascension (alpha, h)
7. Minute of right ascension (alpha, m)
8. Second of right ascension (alpha, s) with decimals
9. Degree of declination (delta, deg)
10. Minute of declination (delta, ' )
11. Second of declination (delta, '' ) with decimals

jg0046

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Right ascension (alpha), hours
6. Declination (delta), degrees
7. Observatory code

jg0047

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - normal result,
* Q=1 - doubtful photometric data

1. The minimum level S min of normalized flux.

jg0048

1. Observatory code (see the table in the relevant article).
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from doubtful photometric data

jg0049

1. The type of the phenomenon (eclipse or occultation) including the satellite numbers. The type of

* phenomenon is coded as n\_a o n\_p or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite and $n\_p$ is the number of the
* occulted or eclipsed satellite.

1. The intensity distribution model that was used in the fit (DLC, DLCm, MLC).

* See explanations in Vasundhara et al. (2017), pp. 502–504.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconds of the astrometric data with decimals (UTC)
7. sigma of the observation date (in seconds)
8. X coordinate in arcseconds (topocentric for mutual occultations or heliocentric for mutual eclipses)
9. Y coordinate in arcseconds (topocentric for mutual occultations or heliocentric for mutual eclipses)
10. "O-C" for X in arcseconds
11. "O-C" for Y in arcseconds
12. sigma of "O-C" for X in arcseconds
13. sigma of "O-C" for Y in arcseconds
14. Central meridian longitude (CML) of the occulted/eclipsed satellite (in degrees)
15. Solar phase angle (in degrees)
16. Impact parameter in arcseconds
17. Impact parameter in kilometers
18. sigma of impact parameter in arcseconds
19. sigma of impact parameter in kilometers

jg0050

1. Year of the Central Instant of Mutual approximation
2. Month of the Central Instant of Mutual approximation
3. Day of the Central Instant of Mutual approximation
4. Hour of the Central Instant of Mutual approximation (UTC)
5. Minute of the Central Instant of Mutual approximation (UTC)
6. Seconds of the Central Instant of Mutual approximation (UTC)
7. Sat1, number of the first satellite in the pair of the Mutual approximation
8. Sat2, number of the second satellite in the pair of the Mutual approximation
9. sigma t0, the central instant error in seconds of time
10. sigma t0, the central instant error in mas

* (using the relative velocity in each event obtained with the ephemeris}

1. Delta t - the difference of t0 in seconds of time between the observation and the ephemeris

* jup310 (with DE435) from JPL in the sense "observation minus ephemeris"

1. Delta t - the difference of t0 in mas between the observation and the ephemeris

* jup310 (with DE435) from JPL in the sense "observation minus ephemeris"

1. N, sequential number with time that labels each observed mutual approximation
2. Obs code, the code of observatory (see above)

jg0051

1. Year of the Central Instant of Mutual approximation
2. Month of the Central Instant of Mutual approximation
3. Day of the Central Instant of Mutual approximation
4. Hour of the Central Instant of Mutual approximation (UTC)
5. Minute of the Central Instant of Mutual approximation (UTC)
6. Seconds of the Central Instant of Mutual approximation (UTC)
7. Sat1, number of the first satellite in the pair of the Mutual approximation
8. Sat2, number of the second satellite in the pair of the Mutual approximation
9. sigma t0, the central instant error in seconds of time
10. sigma t0, the central instant error in mas

* (using the relative velocity in each event obtained with the ephemeris}

1. Delta t - the difference of t0 in seconds of time between the observation and the ephemeris

* jup310 (with DE435) from JPL in the sense "observation minus ephemeris"

1. Delta t - the difference of t0 in mas between the observation and the ephemeris

* jup310 (with DE435) from JPL in the sense "observation minus ephemeris"

1. N, sequential number with time that labels each observed mutual approximation
2. Obs code, the code of observatory (see above)

jg0052

1. Satellite number, N (901 - Europe)
2. Right ascension of the reference point with decimals (alpha, deg)
3. Declination of the reference point with decimals (delta, deg)
4. Measurement epoch, corrected to the geocentre, with respect to JD 2440000.0 (epoch)
5. Light time delay between Hipparcos and geocentre along the astrometric direction from geocentre to the observed object (dtau, seconds)
6. Position angle (relative to the reference point) of the line normal to that on which the satellite is situated (P, deg).

* To get position angle of the satellite relative to the reference point, it is necessary to add 90 degrees to this value

1. Standard error of the satellite's position along the direction normal to the line on which the satellite is situated (sigma, mas)
2. Consortium that analyzed the data, C (1 - NDAC)

jg0053

1. Satellite number, N (902 - Ganymede, 903 - Callisto)
2. Measurement epoch with respect to JD 2440000.0, epoch
3. Right ascension with decimals (alpha, deg)
4. Declination with decimals (delta, deg)
5. Magnitude B in the Tycho system, MagB (99.99 if not available)
6. Magnitude V in the Tycho system, MagV (99.99 if not available)
7. Standard error in right ascension, siga (mas)
8. Standard error in declination, sigd (mas)
9. Correlation coefficient between siga and sigd, ro

jg0054

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s) with decimals
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' ) with decimals
11. (O-C) residual in right ascension, (O-C)RA, arcsec
12. (O-C) residual in declination, (O-C)D, arcsec
13. Error of mean O-C in right ascension, e(O-C)RA, arcsec
14. Error of mean O-C in declination, e(O-C)D, arcsec

jg0055

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3
2. Number of reference satellite (Nr): 2 - J2, 3 - J3, 4 - J4
3. Year of the mean observation date
4. Month of the mean observation date
5. Day of the mean observation date with decimals
6. Differential right ascension (dRA, arcsec)
7. Differential declination (dDE, arcsec)
8. (O-C) residual in right ascension, (O-C)RA, arcsec
9. (O-C) residual in declination, (O-C)D, arcsec
10. Error of mean O-C in right ascension, e(O-C)RA, arcsec
11. Error of mean O-C in declination, e(O-C)D, arcsec

jg0056

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3
2. Number of reference satellite (Nr): 2 - J2, 3 - J3, 4 - J4
3. Year of the mean observation date
4. Month of the mean observation date
5. Day of the mean observation date with decimals
6. Differential right ascension (dRA, arcsec)
7. Differential declination (dDE, arcsec)
8. (O-C) residual in right ascension, (O-C)RA, arcsec
9. (O-C) residual in declination, (O-C)D, arcsec
10. Error of mean O-C in right ascension, e(O-C)RA, arcsec
11. Error of mean O-C in declination, e(O-C)D, arcsec
12. Standard deviation of O-C in right ascension, s(O-C)RA, arcsec
13. Standard deviation of O-C in declination, s(O-C)D, arcsec

jg0057

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - normal result,
* Q=1 - doubtful photometric data

1. The minimum level S min of normalized flux.

jg0058

1. Observatory code (see the table in the relevant article).
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* ’0’ for a total mutual eclipse or occultation observed,
* ’1’ for the results obtained from doubtful photometric data

jg0059

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3, 4 - J4
2. Year of the mean observation date
3. Month of the mean observation date
4. Day of the mean observation date with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s) with decimals
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' ) with decimals
11. (O-C) residual in right ascension, (O-C)RA, arcsec
12. (O-C) residual in declination, (O-C)D, arcsec
13. Error of mean O-C in right ascension, e(O-C)RA, arcsec
14. Error of mean O-C in declination, e(O-C)D, arcsec

jg0060

1. Number of satellite (N): 1 - J1, 2 - J2, 3 - J3
2. Number of reference satellite (Nr): 2 - J2, 3 - J3, 4 - J4
3. Year of the mean observation date
4. Month of the mean observation date
5. Day of the mean observation date with decimals
6. Differential right ascension (dRA, arcsec)
7. Differential declination (dDE, arcsec)
8. (O-C) residual in right ascension ((O-C)RA, arcsec)
9. (O-C) residual in declination ((O-C)D, arcsec)
10. Error of mean O-C in right ascension (e(O-C)RA, arcsec)
11. Error of mean O-C in declination (e(O-C)D, arcsec)

jg0061

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation (UTC)
5. Minute of the moment of observation (UTC)
6. Seconds of the moment of observation (UTC)
7. Code of the phenomenon: AoP - mutual occultation, AeP - mutual eclipse,

* A - the number of activ satellite (occulting or eclipsing)
* P - the number of passiv satellite (occulted or eclipsed)

1. N obs, the number of observatory: 1-OPD, 2-FOZ, 3- GOA (see referebce)
2. Error time, the error of the moment of observation, s
3. Dt\*v, difference of the moment of observation with ephemeride

* converted from seconds of time to mas by using the ephemeris relative velocity, mas

1. s0, impact parameter, mas
2. Error imp.par, error of the impact parameter, mas
3. D imp.par, difference of the impact parameter with ephemeride, mas
4. v, apparent relative velocity in the sky plane, mas/s
5. Error v, error of the apparent relative velocity in the sky plane, mas/s
6. D v, difference of the of the apparent relative velocity in the sky plane

* with ephemeride, mas/s

1. rms, rms between the observed light fluxes and the fitted ones (see reference)
2. N, number of images utilised
3. Xi^2, the normalised Xi^2 of the fit (see reference)

jg0062

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation (UTC)
5. Minute of the moment of observation (UTC)
6. Seconds of the moment of observation (UTC)
7. Code of the phenomenon: AoP - mutual occultation, AeP - mutual eclipse,

* A - the number of activ satellite (occulting or eclipsing)
* P - the number of passiv satellite (occulted or eclipsed)

1. N obs, the number of observatory: 1-OPD, 2-FOZ, 3- GOA (see referebce)
2. Error time, the error of the moment of observation, s
3. Dt\*v, difference of the moment of observation with ephemeride

* converted from seconds of time to mas by using the ephemeris relative velocity, mas

1. s0, impact parameter, mas
2. Error imp.par, error of the impact parameter, mas
3. D imp.par, difference of the impact parameter with ephemeride, mas
4. v, apparent relative velocity in the sky plane, mas/s
5. Error v, error of the apparent relative velocity in the sky plane, mas/s
6. D v, difference of the of the apparent relative velocity in the sky plane

* with ephemeride, mas/s

1. rms, rms between the observed light fluxes and the fitted ones (see reference)
2. N, number of images utilised
3. Xi^2, the normalised Xi^2 of the fit (see reference)

jg0063

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - there is no doubt about the results;
* Q=1 - the flux zero level in the photometry is not correctly excluded;
* you can use the position angle as an astrometric result   
    
   instead the values $X, Y$.
* Q=2 - the flux drop is small and noise signal is big in the photometry,
* astrometric results are doubtful.
* Q=3 - there is a significant error in the photometric data,
* the results are not suitable.

1. The minimum level S min of normalized flux.

jg0064

1. Observatory code (see the table in the relevant article).
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* R=0 - there is no doubt about the results;
* R=1 - the flux zero level in the photometry is not correctly excluded;
* you can use the position angle as an astrometric result   
    
   instead the values $X, Y$.
* R=2 - the flux drop is small and noise signal is big in the photometry,
* astrometric results are doubtful.
* R=3 - there is a significant error in the photometric data,
* the results are not suitable.

jg0065

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - there is no doubt about the results;
* Q=1 - the flux zero level in the photometry is not correctly excluded;
* you can use the position angle as an astrometric result   
    
   instead the values $X, Y$.
* Q=2 - the flux drop is small and noise signal is big in the photometry,
* astrometric results are doubtful.
* Q=3 - there is a significant error in the photometric data,
* the results are not suitable.

1. The minimum level S min of normalized flux.

jg0066

1. Observatory code (see the table in the relevant article).
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* R=0 - there is no doubt about the results;
* R=1 - the flux zero level in the photometry is not correctly excluded;
* you can use the position angle as an astrometric result   
    
   instead the values $X, Y$.
* R=2 - the flux drop is small and noise signal is big in the photometry,
* astrometric results are doubtful.
* R=3 - there is a significant error in the photometric data,
* the results are not suitable.

jg0067

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. X coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Y coordinate in arcseconds (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. sigma of X in arcseconds
2. sigma of Y in arcseconds
3. "O-C" for X in arcseconds
4. "O-C" for Y in arcseconds
5. Angular separation s (in arcseconds) corresponding to X, Y.
6. Position angle A (in degrees) corresponding to X, Y.
7. Flag Q indicating the quality and the reliability of the result:

* Q=0 - there is no doubt about the results;
* Q=1 - astrometric results are doubtful.

1. The minimum level (S min) of normalized flux.

jg0068

1. Observatory code see the table above.
2. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of the astrometric data (UTC)
5. Minute of the astrometric data (UTC)
6. Seconde of the astrometric data with decimals (UTC)
7. Position angle A in degrees (topocentric for mutual occultation

* or heliocentric for mutual eclipse)

1. Precision of apparent position along the apparent relative trajectory

* of the satellite as obtained with the least-square method, in arcseconds

1. O-C along the apparent relative trajectory, in arcseconds.
2. Flag R assigned showing the reason why only one coordinate was determined:

* R=0 - there is no doubt about the results;
* R=1 - astrometric results are doubtful.

jg0069

1. Satellite ID, sat: 501 - Io, 502 - Europa, 504 - Callisto
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)

jg0070

1. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation with decimals
4. X, arcsec
5. Y, arcsec

jg0071

1. The type of the phenomenon (eclipse or occultation) including the

* satellite numbers. The type of phenomenon is coded as n\_a o n\_p
* or n\_a e n\_p for a mutual occultation or eclipse, respectively.
* Here $n\_a$ is the number of the occulting or eclipsing satellite
* and $n\_p$ is the number of the occulted or eclipsed satellite.

1. Year of observation
2. Month of observation
3. Day of observation with decimals
4. X, arcsec
5. Y, arcsec

jg0072

1. Year of the date of observation
2. Month of the date of observation
3. Day of the date of observation
4. Hour of the date of observation (time, h)
5. Minutes of the date of observation (time, m)
6. Seconds of the date of observation (time, s)
7. Hour of right ascension (alpha, h)
8. Minute of right ascension (alpha, m)
9. Second of right ascension with decimals (alpha, s)
10. Uncertainty of right ascension (err\_ra, mas)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Uncertainty of declination (err\_d, mas)

jg0073

1. Satellite ID (sat): 501 - Io, 502 - Europa, 504 - Callisto
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)
9. Position angle of the scanning direction (P, deg)

jg0074

1. Satellite (501 - Io, 502 - Europa, 503 - Ganymede)
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation
5. Hour of the date of observation (time, h)
6. Minutes of the date of observation (time, m)
7. Seconds of the date of observation (time, s)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension with decimals (alpha, s)
11. Uncertainty of right ascension (err\_ra, mas)
12. Degree of declination (delta, deg)
13. Minute of declination (delta, ' )
14. Second of declination (delta, '' )
15. Uncertainty of declination (err\_d, mas)

ji0001

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation with decimals
5. Number of satellite (N sat)
6. Number of reference satellite (N ref)
7. X, arcsec
8. Y, arcsec

ji0002

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation with decimals
5. Number of satellite (N sat)
6. Number of reference satellite (N ref)
7. X, arcsec
8. Y, arcsec

ji0003

1. Number of observation
2. Number of the CCD
3. Year of the observation
4. Month of the observation
5. Day of the observation
6. Hour of time of observation (UTC-3h)
7. Minute of time of observation
8. Seconde of time of observation
9. Number of satellite (N sat)
10. X observed, arcsec
11. Y observed, arcsec
12. X calculated, arcsec
13. Y calculated, arcsec
14. (O-C) X observed - X calculated, arcsec
15. (O-C) Y observed - Y calculated, arcsec

ji0004

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation with decimals
5. Number of satellite (N sat)
6. Number of reference satellite (N ref)
7. X, arcsec
8. Y, arcsec

ji0005

1. Minutes from 0 h UTC, 3 December 1988 (JD=2447498.5)

* of the moment of start times of 60-sec exposures
* with decimals (Min)

1. Number of satellite (N sat)
2. X, arcsec
3. Y, arcsec

ji0006

1. Year of observation
2. Month of observation
3. Day of observation with decimals
4. Angular separation, positive to the East, arcsec

ji0007

1. MJD of observation with decimals (43494 = 17 Dec 1977)
2. Number of satellite, N sat.
3. Right ascension, degres
4. Declination, degres

ji0008

1. JD of observation with decimals
2. Right ascension, degres
3. Declination, degres

ji0009

1. JD of observation with decimals
2. Number os satellite, N sat
3. Delta Right ascension, degres\*10^5 (galilean-Amalthea)
4. Delta Declination, degres\*10^5 (galilean-Amalthea)

ji0010

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of observation (more than 24 is to following date)
5. Minute of observation
6. Seconde of observation (more than 60 to following minute)
7. Hour of the Right ascension of Jupiter

* (uncorrected for phase)

1. Minute of the Right ascension of Jupiter (uncorrected for phase)
2. Seconde of the Right ascension of Jupiter

* (uncorrected for phase) with decimals

1. Degree of the Declination of Jupiter (uncorrected for phase)
2. Arcminute of the Declination of Jupiter (uncorrected for phase)
3. Arcsecond of the Declination of Jupiter

* (uncorrected for phase) with decimals

1. Hour of the Right ascension of Amalthea
2. Minute of the Right ascension of Amalthea
3. Seconde of the Right ascension of Amalthea with decimals
4. Degree of the Declination of Amalthea
5. Arcminute of the Declination of Amalthea
6. Arcsecond of the Declination of Amalthea with decimals

ji0011

1. Year of observation
2. Month of observation
3. Day of observation
4. Hour of observation
5. Minute of observation
6. Seconde of observation
7. Hour of the Right ascension of Jupiter
8. Minute of the Right ascension of Jupiter
9. Seconde of the Right ascension of Jupiter with decimals
10. Degree of the Declination of Jupiter
11. Arcminute of the Declination of Jupiter
12. Arcsecond of the Declination of Jupiter with decimals
13. Hour of the Right ascension of Amalthea
14. Minute of the Right ascension of Amalthea
15. Seconde of the Right ascension of Amalthea with decimals
16. Degree of the Declination of Amalthea
17. Arcminute of the Declination of Amalthea
18. Arcsecond of the Declination of Amalthea with decimals

ji0012

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minutes of the moment of observation
6. Secondes of the moment of observation
7. Wave length, nm
8. X, arcsec
9. Y, arcsec

ji0013

1. Number of satellite (5-J5 Amalthea, 14-J14-Thebe)
2. JD of the moment of observation
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, '' )

ji0014

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation with decimals
5. Number of satellite (N sat)
6. Number of reference satellite (N ref)
7. X, arcsec
8. Y, arcsec

ji0015

1. Julian date of observation (TDB)
2. Number of satellite (N: 05 - Amalthea, 14 - Thebe)
3. Right ascension (alpha, degrees)
4. Declination (delta, degrees)

ji0016

1. Year of the date of observation
2. Month of the date of observation
3. Day of the date of observation
4. Hour of the date of observation
5. Minutes of the date of observation
6. Seconds of the date of observation
7. X, arcsec
8. Y, arcsec
9. Number of satellite (N sat)
10. Number of reference satellite (N ref)

ji0017

1. Image identification number (Frame)
2. Year of the date of the observation
3. Month of the date of the observation
4. Day of the date of the observation
5. Hour of the observation time (image mid-time)
6. Minute of the observation time (image mid-time)
7. Seconds of the observation time (image mid-time)
8. Size of the frame (pixels)
9. Right ascension of the camera's pointing vector orientation (RAc, degrees)
10. Declination of the camera's pointing vector orientation (DEc, degrees)
11. The camera's twist angle (twist, degrees)
12. Sample coordinate of the satellite in the image (sample, pixels)
13. Line coordinate of the satellite in the image (line, pixels)
14. Index of the satellite, N (05 - Amalthea, 14 - Thebe)

ji0018

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation (UTC)
5. Minute of the moment of observation (UTC)
6. Seconds of the moment of observation (UTC)
7. Code of the phenomenon: AoP - mutual occultation, AeP - mutual eclipse,

* A - the number of activ satellite (occulting or eclipsing)
* P - the number of passiv satellite (occulted or eclipsed)

1. N obs, the number of observatory: 1-OPD, 2-FOZ, 3- GOA (see referebce)
2. Error time, the error of the moment of observation, s
3. Dt\*v, difference of the moment of observation with ephemeride

* converted from seconds of time to mas by using the ephemeris relative velocity, mas

1. s0, impact parameter, mas
2. Error imp.par, error of the impact parameter, mas
3. D imp.par, difference of the impact parameter with ephemeride, mas
4. v, apparent relative velocity in the sky plane, mas/s
5. Error v, error of the apparent relative velocity in the sky plane, mas/s
6. D v, difference of the of the apparent relative velocity in the sky plane

* with ephemeride, mas/s

1. rms, rms between the observed light fluxes and the fitted ones (see reference)
2. N, number of images utilised
3. Xi^2, the normalised Xi^2 of the fit (see reference)

jo0001

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jo0002

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jo0003

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo0004

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. N observatory, N telescope, N observer (N obs)

jo0005

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. N observatory, N telescope, N observer (N obs)

jo0006

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo0007

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. N observatory, telescope, observers (N obs)

jo0008

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. N observatory, telescope, observers (N obs)

jo0010

1. Number of satellite
2. Year of observation
3. Month of observation
4. Date of observation with decimals (DD.dddddd)
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

* (If the declination is negative one value of colomns 8-10 is negative).

1. O-C(alpha) for alpha, arcsec (9.99 if abs(O-C)> 10" )
2. O-C(delta) for delta, arcsec (9.99 if abs(O-C)> 10" )
3. Code (IAU) of observatory (N obs, see the list above)
4. Number of reference (N ref, see the list above)

jo0011

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )
10. Parallax in RA (sec)
11. Parallax in Declination (sec)

jo0012

1. Number of satellite (N sat): 6 - J6, 7 - J7.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo0013

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9.
2. Julian date (UTC) of observation with decimals
3. Right ascension (alpha), degrees
4. Declination (delta), degrees
5. Unsertainty (10^-5 degrees)

jo0014

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9,

* 10 - J10, 11 - J11, 12 - J12, 13 - J13.

1. Julian date (UTC) of observation with decimals
2. Hour of right ascension (alpha, h)
3. Minute of right ascension (alpha, m)
4. Second of right ascension (alpha, s)
5. Degree of declination (delta, deg)
6. Minute of declination (delta, ' )
7. Second of declination (delta, '' )
8. Unsertainty in alpha, arcsec
9. Unsertainty in delta, arcsec

jo0015

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9,

* 10 - J10, 11 - J11, 12 - J12, 13 - J13.

1. Julian date (UTC) of observation with decimals
2. Hour of right ascension (alpha, h)
3. Minute of right ascension (alpha, m)
4. Second of right ascension (alpha, s)
5. Degree of declination (delta, deg)
6. Minute of declination (delta, ' )
7. Second of declination (delta, '' )
8. Unsertainty in alpha, arcsec
9. Unsertainty in delta, arcsec

jo0016

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9,

* 10 - J10, 11 - J11, 12 - J12, 13 - J13.

1. Julian date (UTC) of observation with decimals
2. Hour of right ascension (alpha, h)
3. Minute of right ascension (alpha, m)
4. Second of right ascension (alpha, s)
5. Degree of declination (delta, deg)
6. Minute of declination (delta, ' )
7. Second of declination (delta, '' )
8. Unsertainty in alpha, arcsec
9. Unsertainty in delta, arcsec
10. Type of receiver: 1 - photographic, 2 - CCD.

jo0017

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9,

* 10 - J10, 11 - J11, 12 - J12

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h), B1950.0
5. Minute of right ascension (alpha, m), B1950.0
6. Second of right ascension (alpha, s), B1950.0
7. Degree of declination (delta, deg), B1950.0
8. Minute of declination (delta, ' ), B1950.0
9. Second of declination (delta, '' ), B1950.0
10. Hour of right ascension (alpha, h), J2000
11. Minute of right ascension (alpha, m), J2000
12. Second of right ascension (alpha, s), J2000
13. Degree of declination (delta, deg), J2000
14. Minute of declination (delta, ' ), J2000
15. Second of declination (delta, '' ), J2000
16. Unsertainty in Delta(alpha) cos(delta), arcsec
17. Unsertainty in Delta(delta), arcsec

jo0018

1. Number of satellite (N sat): 6 - J6, 7 - J7, 8 - J8, 9 - J9,

* 10 - J10, 11 - J11, 12 - J12, 13 - J13

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h), J2000
5. Minute of right ascension (alpha, m), J2000
6. Second of right ascension (alpha, s), J2000
7. Degree of declination (delta, deg), J2000
8. Minute of declination (delta, ' ), J2000
9. Second of declination (delta, '' ), J2000
10. Unsertainty in alpha, arcsec
11. Unsertainty in delta, arcsec
12. Exposure time, m
13. Observatory code (Obs code): 413 - Siding Spring Observatory

* 809 - European Southern Observatory, La Silla

jo0019

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

jo0020

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

jo0021

1. Year of the moment of observation
2. Month of the moment of observation
3. Day with decimals of the moment of observation
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

jo0022

1. Number of satellite (N sat): 6 - J6, 7 - J7,... 27 - J27
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0023

1. Number of satellite (N sat): 6 - J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0024

1. Number of satellite (N sat): 6 - J6, 7 - J7,... 11 - J11
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0025

1. Number of satellite (N sat): 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0026

1. Number of satellite (N sat): 6 - J6,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0027

1. Number of satellite (N sat): 6 - J6,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0028

1. Number of satellite (N sat): 6 - J6,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo0029

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Number of observatory, observer and teliscope (N obs)

jo0030

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Number of observatory, observer and teliscope (N obs)

jo0031

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day with decimals of the moment of observation
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Number of observatory, observer and teliscope (N obs)

jo0032

1. Number of satellite (N sat)
2. JD of the moment of observation
3. Right ascension (alpha, degrees)
4. Declination (delta, degrees)
5. Number of observatory, observer and teliscope (N obs)

jo0033

1. Number of satellite (N sat): 6 - J6,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Time of exposition, sec (Exp)
9. Hour of right ascension (alpha, h)
10. Minute of right ascension (alpha, m)
11. Second of right ascension (alpha, s)
12. Degree of declination (delta, deg)
13. Minute of declination (delta, ' )
14. Second of declination (delta, '' )
15. O-C in alpha with the JPL data, arcsec
16. O-C in delta with the JPL data, arcsec
17. Code of observatory (site)
18. Code of telescope (tel)
19. Code of observers (obs)

jo0034

1. Number of satellite (N sat): 6 -J6, 7 - J7, 8 - J8
2. JD of observation with decimals (UTC)
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, '' )

jo0035

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Type of receptor, Type:

* A - photographic  
    
   C - CCD  
    
   X - no information

1. Magnitude, Mag (blank if not given)
2. Band for magnitude, Band (blank if not given)

jo0036

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0037

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0038

1. Number of satellite (N sat), 6-J6 Himalia, 7-J7 Elara, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Secondes of the moment of observation
8. Right ascension (alpha, deg)
9. Declination (delta, deg)

jo0039

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0040

1. Number of satellite (N sat): 6 -J6, 7 - J7, 8 - J8
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation (UTC)
6. Minute of the moment of observation (UTC)
7. Second of the moment of observation (UTC)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jo0041

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0042

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0043

1. Number of satellite (N sat): 6 -J6, 7 - J7, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation (UTC)
6. Minute of the moment of observation (UTC)
7. Second of the moment of observation (UTC)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]

jo0044

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0045

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0046

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0047

1. Number of satellite (N sat): 6 -J6, 7 - J7,... 13 - J13
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0048

1. Number of satellite (N sat): 6 -J6, 7 - J7,...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0049

1. Number of satellite (N sat): 6 -J6, 7 - J7,...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. X coordinate of satellite in J2000 geocentric system, km
12. Y coordinate of satellite in J2000 geocentric system, km
13. Z coordinate of satellite in J2000 geocentric system, km

jo0050

1. Number of satellite (N sat): 6 -J6, 7 - J7,...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag (blank if not given)
14. Band for magnitude, Band (blank if not given)

jo0051

1. Number of satellite (N sat): 6 -J6
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. X coordinate of satellite in J2000 geocentric system, km
12. Y coordinate of satellite in J2000 geocentric system, km
13. Z coordinate of satellite in J2000 geocentric system, km

jo0052

1. Number of satellite (N sat): 6 -J6, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Observatory IAU code (OBS)
12. Number of MPC (AJ031,AJ101 - for Astronomical Journal)
13. Magnitude (mag) (in R), blank if nov available

jo0053

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minute of the moment of observation
6. Second of the moment of observation
7. Hour of right ascension (alpha, h)
8. Minute of right ascension (alpha, m)
9. Second of right ascension (alpha, s)
10. Degree of declination (delta, deg)
11. Minute of declination (delta, ' )
12. Second of declination (delta, '' )
13. Number of satellite (N sat)
14. Geocentric parallax in Dec (arcsec) [geo - topo positions]
15. Name od catalogue used for reduction (cat)

jo0054

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, (N obs)
12. Reference to the number of MPC, N MPC
13. Magnitude, Mag ("-" if not given)
14. Band for magnitude, Band ("-" if not given)

jo0055

1. Number of the satellite (N sat): 06 - J6
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. X coordinate of satellite in J2000 geocentric system, km
12. Y coordinate of satellite in J2000 geocentric system, km
13. Z coordinate of satellite in J2000 geocentric system, km

jo0056

1. Number of satellite (N sat), 06-J6 Himalia, 07-J7 Elara, ...
2. Julian Date of the moment of observation
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, " )
9. Right ascension error at mean epoch (mas)
10. Declination error at mean epoch (mas)
11. Magnitude (apparent)
12. Filter (C if filter was not used; "-" if unknown)
13. Telescope (E - ESO, OH - OHP, PE - Perkin-Elmer, BC - Bollen & Chivens, Z - Zeiss)
14. Observatory Code

jo0057

1. Number of satellite (N sat)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation
5. Hour of the moment of observation
6. Minute of the moment of observation
7. Second of the moment of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )
14. Geocentric parallax in RA (arcsec) [geo - topo positions]
15. Geocentric parallax in Dec (arcsec) [geo - topo positions]
16. NOFS Telescope/Reference Catalog

jo0058

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation
4. Hour of the moment of observation
5. Minute of the moment of observation
6. Second of the moment of observation
7. Hour of right ascension (alpha, h)
8. Minute of right ascension (alpha, m)
9. Second of right ascension (alpha, s)
10. Degree of declination (delta, deg)
11. Minute of declination (delta, ' )
12. Second of declination (delta, '' )
13. Number of satellite (N sat)
14. Name of star catalog used

jo0059

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, (N obs)
14. Reference to the issue of MPC, N MPC

jo0060

1. Number of the satellite (N sat): 06 - J6
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. X coordinate of the WISE satellite in J2000 geocentric system, km
14. Y coordinate of the WISE satellite in J2000 geocentric system, km
15. Z coordinate of the WISE satellite in J2000 geocentric system, km
16. Reference to the issue of MPC, N MPC

jo0061

1. Number of satellite (N sat): 6 - J6, 7 - J7
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation
5. Hour of the date of observation
6. Minute of the date of observation
7. Second of the date of observation
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Second of right ascension (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Second of declination (delta, '' )

jo0062

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0063

1. Number of the satellite (N sat): 06 - J6
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. X coordinate of the WISE satellite in J2000 geocentric system, km
14. Y coordinate of the WISE satellite in J2000 geocentric system, km
15. Z coordinate of the WISE satellite in J2000 geocentric system, km

jo0064

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0065

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0066

1. Number of the satellite (N): 6 - J6, 7 - J7, 8 - J8
2. Year of the date of the observation
3. Month of the date of the observation
4. Day of the date of the observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension with decimals (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination with decimals (delta, '' )
11. The residual (O-C) in the right ascension, (O-C)a (arcsec)
12. The residual (O-C) in the declination, (O-C)d (arcsec)
13. The number of Tycho-2 reference stars (Nref)
14. The index of the plate in observational logs (Pl)
15. Telescope (T): 1 - DWA, 2 - DAZ, 3 - Z600
16. Duration of exposure time in minutes (Ex, m)

jo0067

1. Number of satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0068

1. Number of satellite (N sat): 11 - J11, 12 - J12, 13 - J13
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag
12. Band for magnitude, Band
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0069

1. Satellite ID, sat: 506 - Himalia, 507 - Elara, etc.
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)

jo0070

1. Index of satellite (N sat): 06 - J6, 08 - J8, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag
12. Band for magnitude, Band
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0071

1. Index of the satellite (N sat): 06 - J6
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. X coordinate of the WISE satellite in J2000 geocentric system, km
14. Y coordinate of the WISE satellite in J2000 geocentric system, km
15. Z coordinate of the WISE satellite in J2000 geocentric system, km
16. Reference to the issue of MPC, N MPC

jo0072

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals (UTC)
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

jo0073

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals (UTC)
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

10.Number of satellite: 07 - J7 - Elara, 08 - J8 - Pasiphae,

jo0074

1. Index of satellite (N sat): 07 - J7, 08 - J8, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag
12. Band for magnitude, Band
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo0075

1. Index of the satellite (N sat): 06 - J6, 07 - J7, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. X coordinate of the WISE satellite in J2000 geocentric system, km
14. Y coordinate of the WISE satellite in J2000 geocentric system, km
15. Z coordinate of the WISE satellite in J2000 geocentric system, km
16. Reference to the issue of MPC, N MPC

jo0076

1. Index of satellite (N sat): 0 - J6, 8 - J8
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation
5. Hour of the date of observation (time, h)
6. Minutes of the date of observation (time, m)
7. Seconds of the date of observation with decimals (time, s)
8. Hour of right ascension (alpha, h)
9. Minute of right ascension (alpha, m)
10. Seconds of right ascension with decimals (alpha, s)
11. Degree of declination (delta, deg)
12. Minute of declination (delta, ' )
13. Seconds of declination with decimals (delta, '' )

jo0077

1. Satellite ID (sat): 506 - Himalia, 507 - Elara, etc.
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)
9. Position angle of the scanning direction (P, deg)

jo0078

1. Julian date of the mid-time of exposure of CCD frame (JD)
2. Hour of right ascension (alpha, h)
3. Minute of right ascension (alpha, m)
4. Seconds of right ascension with decimals (alpha, s)
5. Degree of declination (delta, deg)
6. Minute of declination (delta, ' )
7. Seconds of declination with decimals (delta, '' )
8. Observatory code (Obs)

jo1001

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )
10. Number of observatory (see informations above)
11. Number of telescope (see informations above)
12. Number of observer (see informations above)

jo1002

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )
10. Number of observatory (see informations above)
11. Number of telescope (see informations above)
12. Number of observer (see informations above)

jo1003

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Residuals in right ascension, seconds of arc
12. Residuals in declination , seconds of arc

jo1004

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Number of observatory, N site (see above)
12. Number of observer, N obs (see above)
13. Number of telescope, N tel (see above)

jo1005

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Number of observatory, N site (see above)
12. Number of observers, N obs (see above)
13. Number of telescope, N tel (see above)

jo1006

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1007

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1008

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1009

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1010

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1011

1. Number of satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1012

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )

jo1013

1. Number of satellite (N sat): 4 - S/2001 J 4, 7 - S/2001 J 7
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1014

1. Number of satellite (N sat): 5 - S/2001 J 5, 9 - S/2001 J 9
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1015

1. Number of satellite (N sat): 1 - S/2003 J 1, ... 7 - S/2003 J 7
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )

jo1016

1. Number of satellite (N sat): 20 - J20, ... 27 - J27
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1017

1. Number of satellite (N sat): 8 - S/2001 J8 , 10 - S/2001 J 10
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1018

1. Number of satellite (N sat): 8 - S/2003 J 8, 9 - S/2001 J 9, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1019

1. Number of satellite (N sat): 6 - S/2001 J 6
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1020

1. Number of satellite (N sat): 13 - S/2003 J 13,... 18 - S/2003 J 18
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1021

1. Number of satellite (N sat): 17 - J17, ... 27 - J27
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1022

1. Number of satellite (N sat): 1 - S/2002 J 1
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1023

1. Number of satellite (N sat): 3 - S/2001 J 3,..., 11 - S/2001 J 11
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1024

1. Number of satellite (N sat): 319 - S/2003 J 19, 320 - S/2002 J 20
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, telescope, observers (N obs)

jo1025

1. Number of satellite (N sat): 17 - J17, ... 27 - J27
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1026

1. Number of satellite (N sat): 101 - S/2001 J 1, ..., 313 - S/2003 J 13.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1027

1. Number of satellite (N sat): 321 - S/2003 J 21.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1028

1. Number of satellite (N sat): 101 - S/2001 J 1, ..., 321 - S/2003 J 21.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1029

1. Number of satellite (N sat): 17 - J17, ..., 27 - J27.
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1030

1. Number of satellite (N sat): 17 - J17, 301 - S/2003 J 1, 307 - S/2003 J 7
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1031

1. Number of satellite (N sat): 302 - S/2003 J 2
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1032

1. Number of satellite (N sat): 307 - S/2003 J 7, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1033

1. Number of satellite (N sat): 201 - S/2002 J 1, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1034

1. Number of satellite (N sat): 301 - S/2003 J 1, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (N obs)

jo1035

1. Number of satellite (N sat): 17 - J17 Callirrhoe, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. The observed magnitude, mag (\* if not given)
13. The band in which the measurement was made, band (\* if not given)
14. Value of the column 72 from MPC data, c72 (\* if not given)
15. Number of the Minor Planet Circular where the observation

* is published.

jo1036

1. Number of satellite (N sat): 314 - S/2003 J14
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. The observed magnitude in V band, mag (\* if not given)

jo1037

1. Number of satellite (N sat): 17 - J17 Callirrhoe, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. The observed magnitude, mag (\* if not given)
13. The band in which the measurement was made, band (\* if not given)
14. Value of the column 72 from MPC data, c72 (\* if not given)
15. Number of the Minor Planet Circular where the observation

* is published.

jo1038

1. Number of satellite (N sat): 317 - S/2003 J17
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. The observed magnitude, mag (\* if not given)
13. The band in which the measurement was made, band (\* if not given)
14. Reference to publication

jo1039

1. Number of satellite (N sat): 18 - J18 - Themisto
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Reference to publication

jo1040

1. Number of satellite (N sat): 27 - J27 - Praxidike
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Magnitude
13. Spectral band
14. Reference to publication

jo1041

1. Number of satellite (N sat): 17 - J17 - Callirrhoe
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. X coordinate of satellite in J2000 geocentric system, km
12. Y coordinate of satellite in J2000 geocentric system, km
13. Z coordinate of satellite in J2000 geocentric system, km

jo1042

1. Number of satellite (N sat): 1001 - S/2010\_J1, 1002 - S/2010\_J2
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Magnitude in R band (blank if not available)

jo1043

1. Number of satellite (N sat): 1101 - S/2011\_J1, 1102 - S/2011\_J2
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Magnitude (XX if not available)

jo1044

1. Number of satellite (N sat): 17 - J17, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Magnitude in V (XX if not available)

jo1045

1. Number of satellite (N sat): 1001 - S/2010\_J1, 1002 - S/2010\_J2, 1101 - S/2011\_J1
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Magnitude in R band (blank if not available)

jo1046

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )
10. Code of observatory, N obs

jo1047

1. Year of the moment of observation
2. Month of the moment of observation
3. Day of the moment of observation with decimals
4. Hour of right ascension (alpha, h)
5. Minute of right ascension (alpha, m)
6. Second of right ascension (alpha, s)
7. Degree of declination (delta, deg)
8. Minute of declination (delta, ' )
9. Second of declination (delta, '' )
10. Code of observatory, N obs

jo1048

1. Number of satellite, Nsat (17 - J17, ... 200316 - S2003 J16, ...)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory (IAU code), Obs code

jo1049

1. Number of the satellite (N sat): 17 - J17, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Code of observatory, N obs
12. Reference to the issue of MPC, N MPC
13. Magnitude, Mag
14. Band for magnitude, Band

jo1050

1. Number of the satellite (see above)
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)

jo1051

1. Number of satellite (N sat), 17-J17 Callirrhoe, 18-J18 Themisto, ...
2. Julian Date of the moment of observation
3. Hour of right ascension (alpha, h)
4. Minute of right ascension (alpha, m)
5. Second of right ascension (alpha, s)
6. Degree of declination (delta, deg)
7. Minute of declination (delta, ' )
8. Second of declination (delta, " )
9. Right ascension error at mean epoch (mas)
10. Declination error at mean epoch (mas)
11. Magnitude (apparent)
12. Filter
13. Telescope (E - ESO, PE - Perkin-Elmer)
14. Observatory Code

jo1052

1. Number of the satellite (N sat): 17 - J17, ...
2. Year of the moment of observation
3. Month of the moment of observation
4. Day of the moment of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, (N obs)
14. Reference to the issue of MPC, N MPC

jo1053

1. Number of the satellite (N sat): 17 - J17, ...
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1054

1. Number of the satellite (N sat): 18 - J18, ...
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1055

1. Number of the satellite (N sat): 17 - J17, ...
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1056

1. Number of the satellite (N sat): 22 - J17, ..., 200302 - S/2003 J02, ...
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1057

1. Satellite ID, sat: 517 - Callirrhoe, 518 - Themisto
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)

jo1058

1. Index of the satellite (N sat): 17 - J17, ..., 200324 - S/2003 J24
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1059

1. Index of the satellite (N sat): 200310 - S/2003 J10, etc.
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. Code of observatory, N obs
14. Reference to the issue of MPC, N MPC

jo1060

1. Index of the satellite (N sat): 17 - J17
2. Year of the date of observation
3. Month of the date of observation
4. Day of the date of observation with decimals
5. Hour of right ascension (alpha, h)
6. Minute of right ascension (alpha, m)
7. Second of right ascension (alpha, s)
8. Degree of declination (delta, deg)
9. Minute of declination (delta, ' )
10. Second of declination (delta, '' )
11. Magnitude, Mag ("-" if not given)
12. Band for magnitude, Band ("-" if not given)
13. X coordinate of the WISE satellite in J2000 geocentric system, km
14. Y coordinate of the WISE satellite in J2000 geocentric system, km
15. Z coordinate of the WISE satellite in J2000 geocentric system, km
16. Reference to the issue of MPC, N MPC

jo1061

1. Satellite ID (sat): 517 - Callirrhoe, 518 - Themisto
2. Observation identifier (Obs\_id)
3. Gaia-centric epoch in TCB relative to 2455197.5 (Epoch\_TCB, days)
4. Right ascension of the satellite (RA, deg)
5. Declination of the satellite (DEC, deg)
6. Barycentric equatorial J2000 x position (ICRS) of Gaia at the epoch of the observation (X, AU)
7. Barycentric equatorial J2000 y position (ICRS) of Gaia at the epoch of the observation (Y, AU)
8. Barycentric equatorial J2000 z position (ICRS) of Gaia at the epoch of the observation (Z, AU)
9. Position angle of the scanning direction (P, deg)