

Parameter and parameter set vocabulary

DISHAS V1 – January 2018 – Galla Topalian

Form of the equation of time in DISHAS

The diagram illustrates the form of the equation of time in DISHAS, showing a series of parameter sets. The first set, 'Equation of time: low minimum', is highlighted with a red border and contains a 'Value (sexagesimal)' field and two 'High bound (sexagesimal)' fields. A blue line points to the 'Value (sexagesimal)' field, labeled 'Parameter'. A green line points to the 'High bound (sexagesimal)' field, labeled 'Value of the parameter'. The second set, 'Equation of time: low maximum', is highlighted with a red border and contains a 'Value (sexagesimal)' field and two 'High bound (sexagesimal)' fields. A red line points to the 'Value (sexagesimal)' field, labeled 'Group of parameters'. The third set, 'Equation of time: high minimum', is highlighted with a red border and contains a 'Value (sexagesimal)' field and two 'High bound (sexagesimal)' fields. A red line points to the 'Value (sexagesimal)' field, labeled 'Single parameter'. The fourth set, 'Equation of time: high maximum', is highlighted with a red border and contains a 'Value (sexagesimal)' field and two 'High bound (sexagesimal)' fields. A red line points to the 'Value (sexagesimal)' field, labeled 'Parameter set'. The fifth set, 'Equation of time: obliquity of the ecliptic', is highlighted with a red border and contains a 'Value (sexagesimal)' field. A red line points to the 'Value (sexagesimal)' field, labeled 'Single parameter'. The sixth set, 'Equation of time: solar eccentricity', is highlighted with a red border and contains a 'Value (sexagesimal)' field. A red line points to the 'Value (sexagesimal)' field, labeled 'Parameter set'. The seventh set, 'Equation of time: solar apogee longitude', is highlighted with a red border and contains a 'Value (sexagesimal)' field. A red line points to the 'Value (sexagesimal)' field, labeled 'Parameter set'. The eighth set, 'Equation of time: epoch constant', is highlighted with a red border and contains a 'Value (sexagesimal)' field. A red line points to the 'Value (sexagesimal)' field, labeled 'Parameter set'. The ninth set, 'Equation of time: hour conversion rate', is highlighted with a red border and contains a 'Value (sexagesimal)' field. A red line points to the 'Value (sexagesimal)' field, labeled 'Parameter set'.

Equation of time: low minimum
(argument 1 = degree ; entry = degree)
☒ Integer sexagesimal unit
Value (sexagesimal)
Low bound (sexagesimal) High bound (sexagesimal)

Equation of time: low maximum
(argument 1 = degree ; entry = degree)
☒ Integer sexagesimal unit
Value (sexagesimal)
Low bound (sexagesimal) High bound (sexagesimal)

Equation of time: high minimum
(argument 1 = degree ; entry = degree)
☒ Integer sexagesimal unit
Value (sexagesimal)
Low bound (sexagesimal) High bound (sexagesimal)

Equation of time: high maximum
(argument 1 = degree ; entry = degree)
☒ Integer sexagesimal unit
Value (sexagesimal)
Low bound (sexagesimal) High bound (sexagesimal)

Equation of time: obliquity of the ecliptic
(degree)
☒ Integer sexagesimal unit
Value (sexagesimal)

Equation of time: solar eccentricity
(degree)
☒ Integer sexagesimal unit
Value (sexagesimal)

Equation of time: solar apogee longitude
(degree)
☒ Integer sexagesimal unit
Value (sexagesimal)

Equation of time: epoch constant
(degree)
☒ Integer sexagesimal unit
Value (sexagesimal)

Equation of time: hour conversion rate
(no unit)
☒ Integer sexagesimal unit
Value (sexagesimal)

Parameter

Value of the parameter

Group of parameters

Single parameter

Parameter set

Diagram illustrating the form of the total equation double argument table mercury in DISHAS. The form includes the following fields and labels:

- Name of the parameter:** Total equation double argument table mercury: maximum value
- Unit of the values:** Integer sexagesimal unit
- Value:** Value (sexagesimal)
- First range:** Low bound (sexagesimal) and High bound (sexagesimal)
- Second range:** Low bound (sexagesimal) and High bound (sexagesimal)

Form of the total equation double argument table mercury in DISHAS

Glossary

Format (=type of number)	List of formats: Integer_sexagesimal or historical decimal
Group of parameters	Some parameters, especially explicit parameters, are only meaningful when read in group. For instance the equation of time can be identified from its low and high maximum and its low and high minimum. These four parameters form a group. Note that only the parameters that are meaningful alone e.g.: solar eccentricity, are single parameters.
Name of the parameter	The name of the parameter followed by the table type.
Parameter	A parameter is an astronomical quantity that describes tables at the level of astronomical theories. A parameter can be shared by several tables across different traditions. Broadly speaking, there are two kinds of parameters: explicit parameters that are directly read off the table, e.g., the maximum value(s); and implicit parameters that need to be retrieved from the table content computationally, e.g., solar eccentricity. Parameters are a central tool in (i) delineating and connecting astronomical traditions and (ii) analyzing the mathematical and astronomical content of the tables.
Parameter Set	A parameter set is a set of parameters: astronomical quantities that describes tables at the level of astronomical theories.
Ranges	The range of arguments on which the table gives a specific entry (e.g. maximum or minimum).
Single parameter	Parameters that are meaningful alone e.g.: solar eccentricity, are single parameters.
Unit of the parameter	List of unit: day, degree, degree/day, degree/hour, du, du/day, du/hour, no unit and mixes of them.
Value	The numerical value taken by a parameter in a list. For instance 24° is a value for the obliquity.