



TIME

What is an Epoch



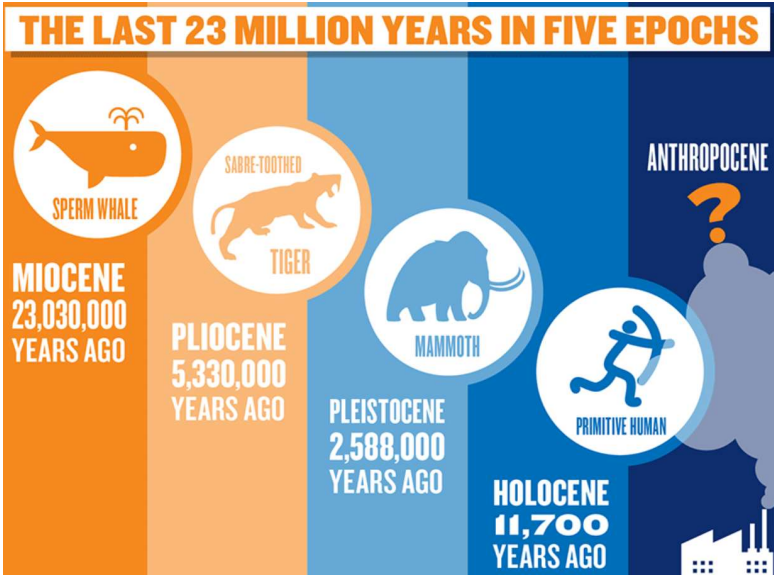


What is an Epoch

Overview

Epoch is a particular time period, point in history, or a moment defined by a particular event.

For Astronomy, it is an arbitrarily fixed instant of time or date.
 Examples: Planetary orbits, RA & Dec coordinates.



WDS Identifier	Discover	Comp	EPOCH Frst Last	#	THETA Fst Lst		RHO First Last		Magnitudes Pri Sec		Spectral Type	Prop RA" DEC"	Mot DEC"	2nd RA" DEC"	PM DEC"	DM	Desig	Note	Precise Coordinate
00000+7530A	1248		1904 1982	5	246 235	0.8 0.6	10.27 11.5	A7IV				+034+005				+74	1056		000006.64+752859.8
00000+4004ES	2543AB		1931 2014	5	252 253	4.8 4.2	12.1 13.1					+008-004	-011-002						000003.66+400519.4



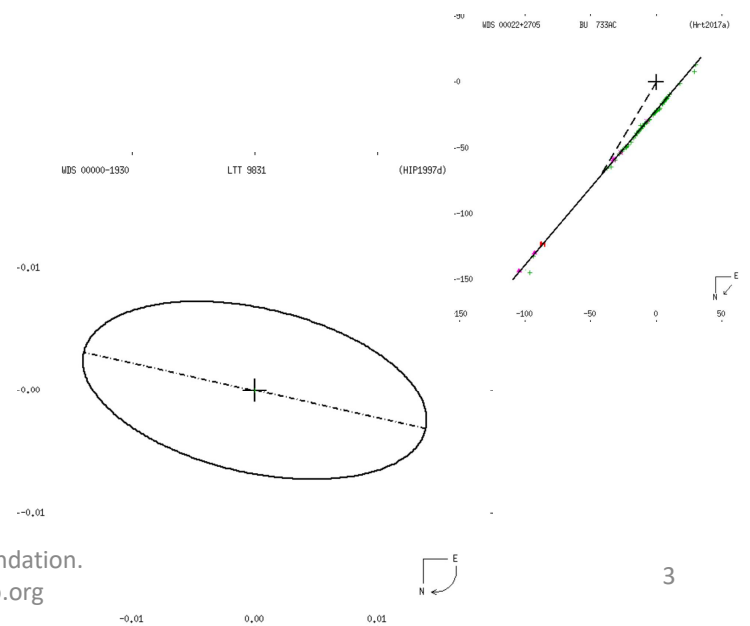
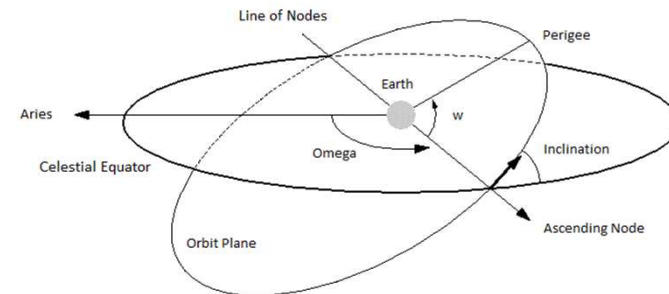
Astronomical Time - An Overview

What is an Epoch

An epoch is a moment in time used as a reference point for some time-varying astronomical quantity, such as the celestial coordinates or elliptical orbital elements of a celestial body, because these are subject to perturbations and vary with time.

The main use of astronomical quantities specified in this way is to calculate other relevant parameters of motion, in order to predict future positions and velocities.

Examples are: Orbits, Rectilinear paths, eclipses, transits, etc.



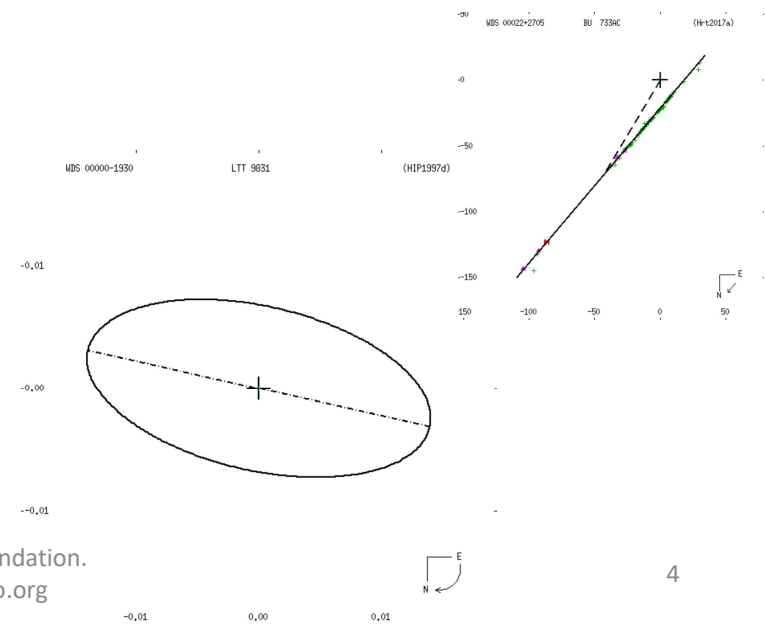
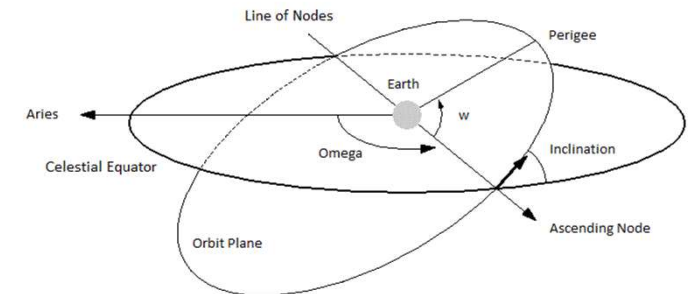


Astronomical Time - An Overview

Specifying an Epoch

As Epochs are moments in time, they fall under typical expressions of time. You will see these in the following fashion:

- Julian Days: ex. JD 2433282.4235
- Besselian Years: B1950
- Julian Years: J2000 (NOTE: J2000 is the current Epoch for RA and Dec coordinates for celestial objects). Prior to J2000, the standard was J1950.



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What is an Epoch

Online Tools

An Epoch Converter can be found at:

- <http://www.stargazing.net/mas/epoch.htm>
- <http://hea.iki.rssi.ru/AZT22/ENG/tools.htm>
- <http://aa.usno.navy.mil/data/docs/JulianDate.php>

Epoch Converter		
Old Epoch	1950	user input
New Epoch	2000	user input
Old Right Ascension (HH MM SS)		h ' " user input
Old Declination (DD MM SS)		° ' " user input
Right Ascension (HH:MM:SS)	0	
Change (HH:MM:SS)	0	
Declination (DD:MM:SS)	0	
Change (HH:MM:SS)	0	
Tirion 2000 page	0	
Uranometria 2000 page	0	
Millennium page	0	
<input type="button" value="Calculate"/>		



What is an Epoch

Summary

An Epoch is a moment in time.

These are used throughout science.

In Astronomy, it is important to understand the reference frame for the Epoch being used.



What is an Epoch

Questions?