



TIME

What is an Ephemeris





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Overview

An Ephemeris is an estimation of where/when a particular astronomical event will occur at a particular time in the future.

These can be provided in tables, formulas, and graphical depictions.

The following will outline examples from Double Stars and Variable Stars



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Double Stars

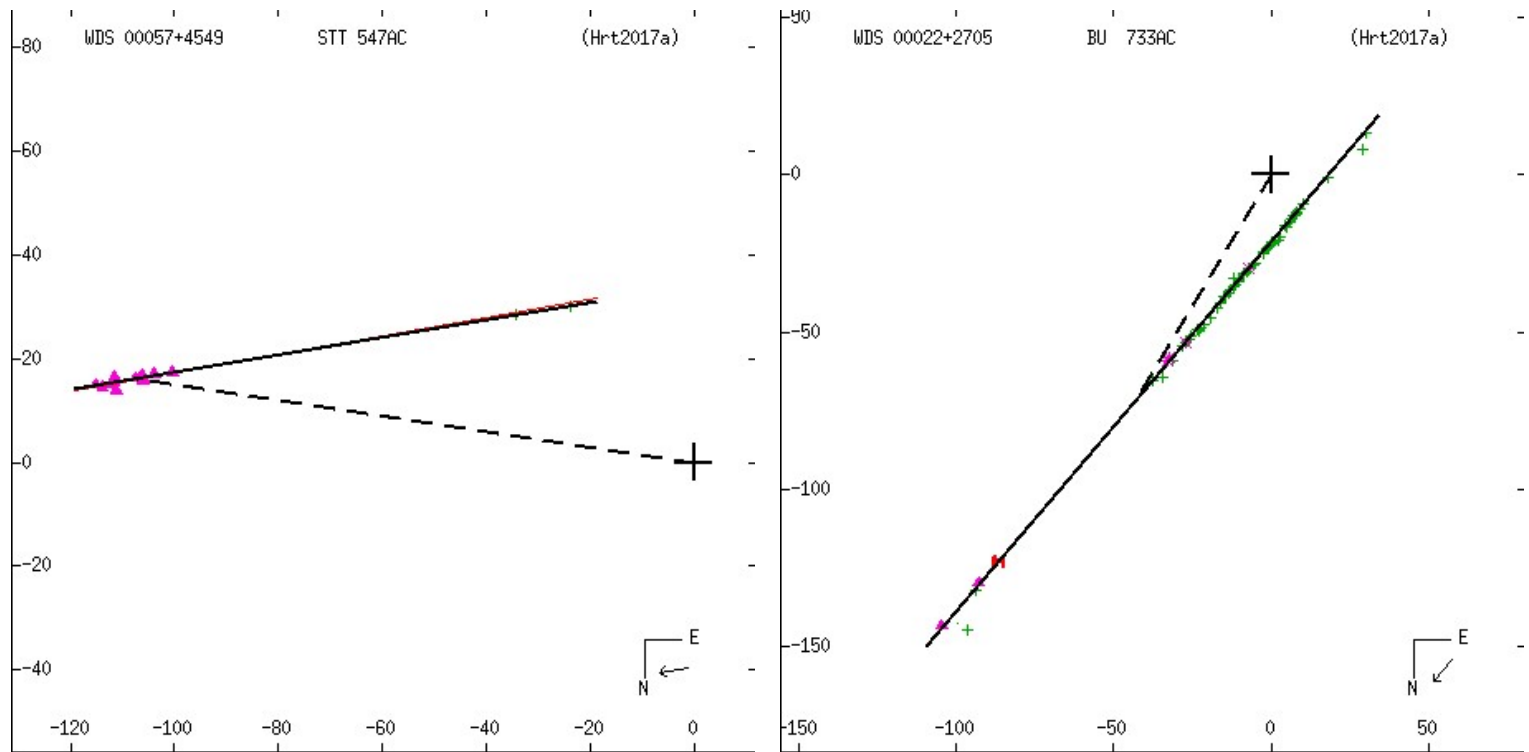
The following are taken from the Catalog of Rectilinear Elements in the WDS

WDS.....	DD.....	Ref.....	... 2015.0 ..	... 2020.0...	... 2025.0...	... 2030.0 ..	... 2035.0 ..	... 2040.0 ..
.....	.....	.....	theta ..rho..	theta ..rho..	theta ..rho..	theta ..rho..	theta ..rho..	theta ..rho..
.....	+/- +/-	+/- +/-	+/- +/-	+/- +/-	+/- +/-	+/- +/-
00022+2705	BU 733AC	Hrt2017a	324.0 180.530 0.1 0.205	323.8 186.971 0.1 0.216	323.7 193.413 0.1 0.226	323.6 199.856 0.1 0.238	323.4 206.300 0.1 0.249	323.3 212.745 0.1 0.260
00022+2705	BU 733AD	Hrt2017a	308.1 227.044 0.1 0.293	308.4 233.429 0.1 0.310	308.6 239.820 0.1 0.327	308.9 246.216 0.1 0.344	309.1 252.617 0.1 0.361	309.4 259.022 0.1 0.378



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Double Stars



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Variable Stars

Ephemeris for WASP-76 (HJD/UT)

Epoch	Start	Mid	End
2458442.608	20 Nov 2018 00:44	20 Nov 2018 02:35	20 Nov 2018 04:26
2458444.418	21 Nov 2018 20:11	21 Nov 2018 22:01	21 Nov 2018 23:52
2458446.228	23 Nov 2018 15:37	23 Nov 2018 17:28	23 Nov 2018 19:18
2458448.038	25 Nov 2018 11:03	25 Nov 2018 12:54	25 Nov 2018 14:45
2458449.848	27 Nov 2018 06:29	27 Nov 2018 08:20	27 Nov 2018 10:11
2458451.657	29 Nov 2018 01:55	29 Nov 2018 03:46	29 Nov 2018 05:37
2458453.467	30 Nov 2018 21:22	30 Nov 2018 23:12	01 Dec 2018 01:03
2458455.277	02 Dec 2018 16:48	02 Dec 2018 18:39	02 Dec 2018 20:29
2458457.087	04 Dec 2018 12:14	04 Dec 2018 14:05	04 Dec 2018 15:56
2458458.897	06 Dec 2018 07:40	06 Dec 2018 09:31	06 Dec 2018 11:22
2458460.707	08 Dec 2018 03:07	08 Dec 2018 04:57	08 Dec 2018 06:48
2458462.517	09 Dec 2018 22:33	10 Dec 2018 00:24	10 Dec 2018 02:14
2458464.327	11 Dec 2018 17:59	11 Dec 2018 19:50	11 Dec 2018 21:41
2458466.137	13 Dec 2018 13:25	13 Dec 2018 15:16	13 Dec 2018 17:07
2458467.946	15 Dec 2018 08:52	15 Dec 2018 10:42	15 Dec 2018 12:33
2458469.756	17 Dec 2018 04:18	17 Dec 2018 06:09	17 Dec 2018 07:59
2458471.566	18 Dec 2018 23:44	19 Dec 2018 01:35	19 Dec 2018 03:26

Ephemeris for AK Cep (HJD/UT)

Epoch	Mid
2458431	08 Nov 2018 18:19
2458438	15 Nov 2018 23:54
2458446	23 Nov 2018 05:29
2458453	30 Nov 2018 11:05
2458460	07 Dec 2018 16:40
2458467	14 Dec 2018 22:15
2458475	22 Dec 2018 03:50
2458482	29 Dec 2018 09:25
2458489	05 Jan 2019 15:00
2458496	12 Jan 2019 20:35

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Summary

While an Ephemeris is a prediction of future position, it is important to remember that it is just a PREDICTION.

There are many cases where an estimated position does not match observational reality.

Therefore, all measurements have value. Some will affirm an Ephemeris and some will highlight that there is an error in the calculation. Both are valuable.



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Questions?