

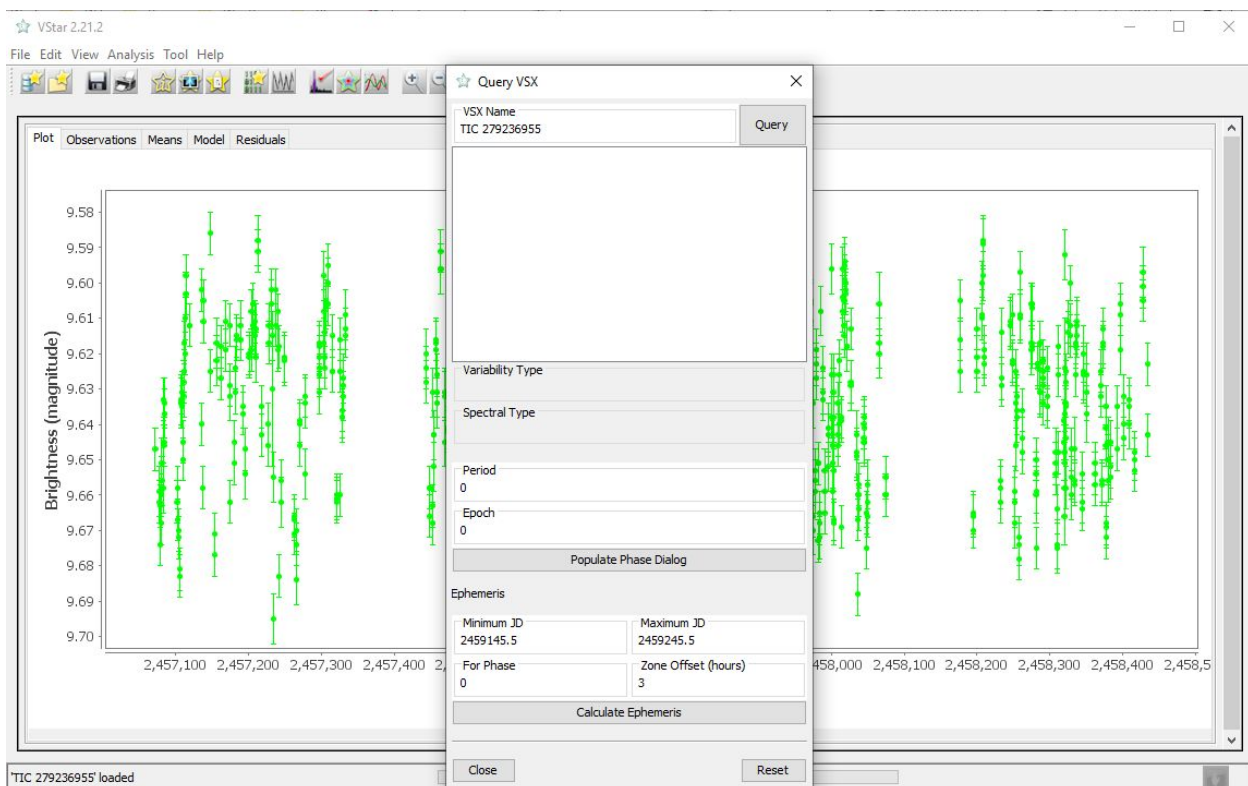
## VSX Query plug-in

The VSX Query plug-in shows variable star information taken from the VSX database. Additionally, it calculates ephemerides for periodic variables for *any* phase. This is convenient if someone wants to know ephemerides for the secondary eclipse of eclipsing binaries etc.

While loading data from AAVSO International Database (AID) via “New Star from AAVSO Database” menu command, VStar gets star’s information automatically, including a period and an epoch (for periodic variables) that can be directly used while building phase plots. Additional star’s parameters (such as variability type, spectral type, coordinates, etc.) are available via “Info” dialog. In other cases, when data is loaded from a file or another data source, that information is not available directly from within VStar and should be searched using the VSX web portal (<https://aavso.org/vsx/>).

The VSQ query plugin allows the user to get the star’s information within VStar directly. When installed, the plugin is accessible through Tool->VSX Query command.

Let’s take as an example a star TIC 279236955. There is no data for it in AID (at the time of writing this document). There is ASAS-SN data from which we want to create a phase plot. Instead of opening an internet browser and searching via VSX portal we can launch VSQ Query plug-in and enter star’s identifier in the “VSX Name” field:



After clicking [Query] button and waiting for several seconds (time depends on your internet connection and current load of VSX server) you should get the following information:

☆ Query VSX

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VSX Name

TIC 279236955

Query

Name: TIC 279236955  
AUID: 000-BNL-873  
RA2000: 299.24437  
Declination2000: 21.33047  
VariabilityType: BCEP  
Period: 0.12416075  
Epoch: 2457508.071  
MaxMag: 9.59 V  
MinMag: 9.67 V  
SpectralType: B2III  
Discoverer: KELT; Maksym Pyatnytskyi (PMAN (AAVSO))  
Category: Variable  
OID: 1543848  
Constellation: Sge

Variability Type

BCEP

Spectral Type

B2III

Period

0.12416075

Epoch

2457508.071

Populate Phase Dialog

Ephemeris

Minimum JD

2459145.5

Maximum JD

2459245.5

For Phase

0

Zone Offset (hours)

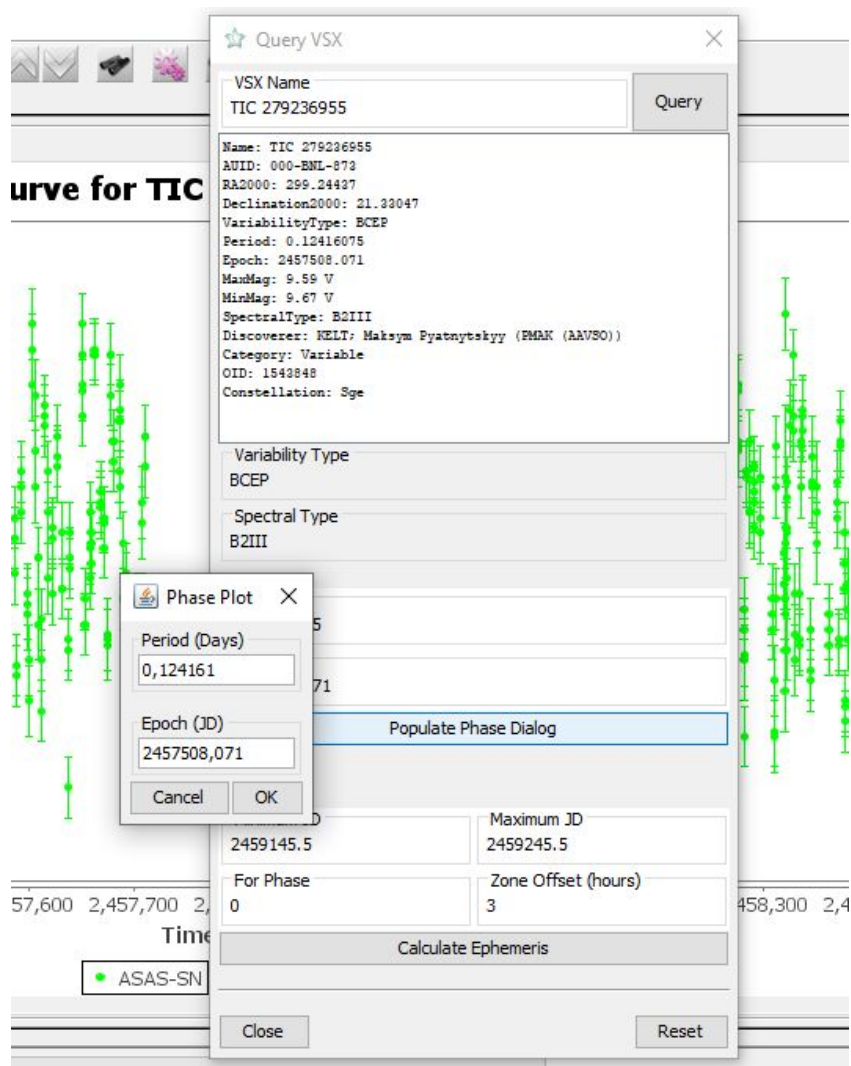
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Calculate Ephemeris

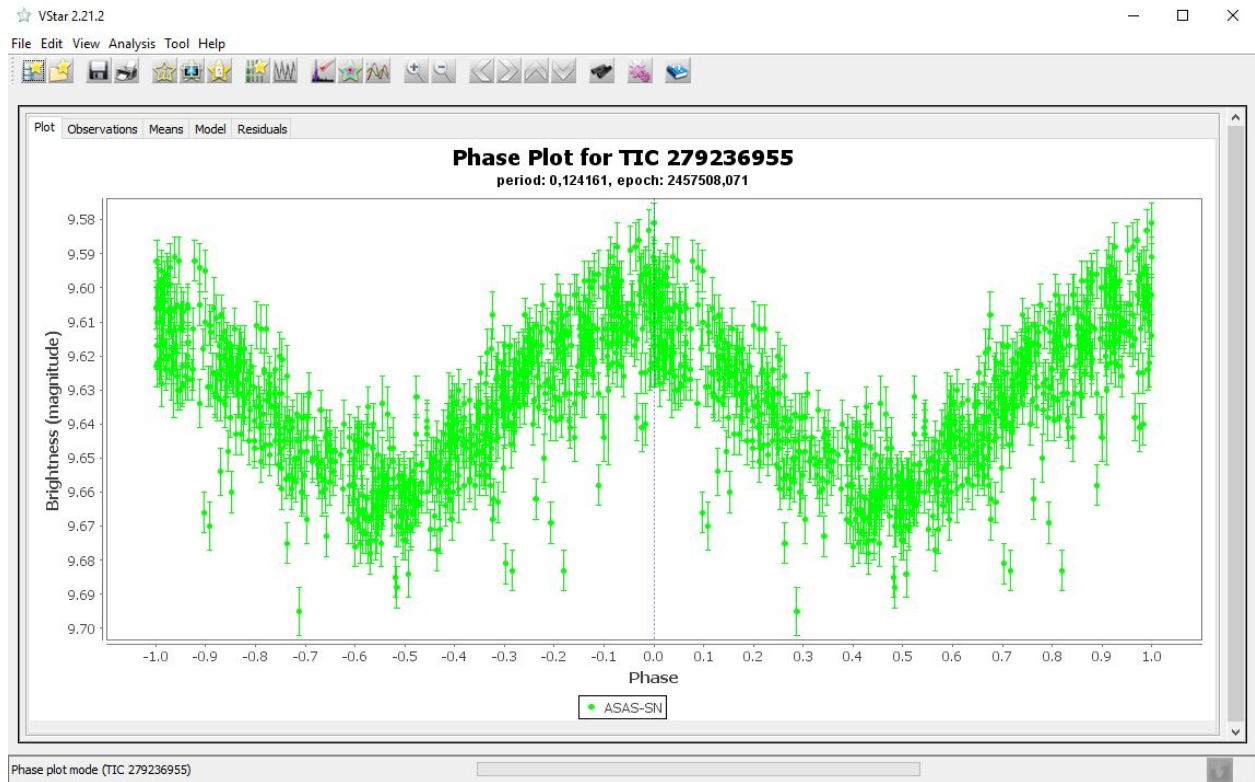
Close

Reset

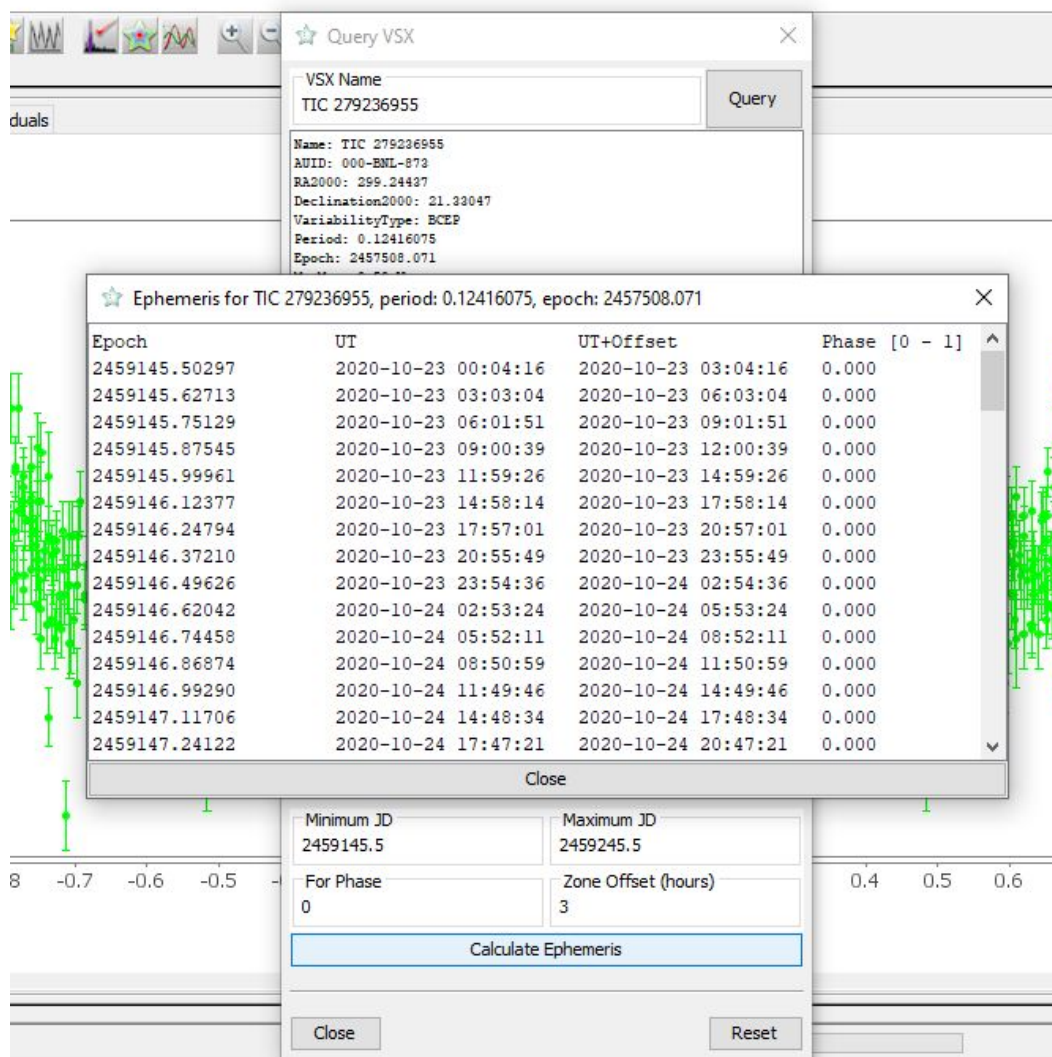
The star is periodic (the period and the epoch are in “Period” and “Epoch” fields respectively). There is no need to enter the period and the epoch manually in the “Phase Plot” dialog, just click the [Populate Phase Dialog] button. Then open Phase Dialog (via Analysis->Phase Plot... menu command). Period and Epoch fields should be already filled by respective values.



Press [OK] button to build the phase plot:



The calculator of ephemerides is located in the bottom part of the VSXquery dialog. Enter period for calculations (minimum and maximum JD) and a phase for which the ephemerides should be calculated. Ephemerides are calculated for UT and for UT+zone offset (that is specified in the respective field).



Rev. B

## Revision History

Rev	Date	Description	Author
A	2020-06-12	Initial Release	Maksym Pyatnytsky, PMAK
B	2020-10-23	Description of ephemerides calculator	Maksym Pyatnytsky, PMAK