

## Occult Tools

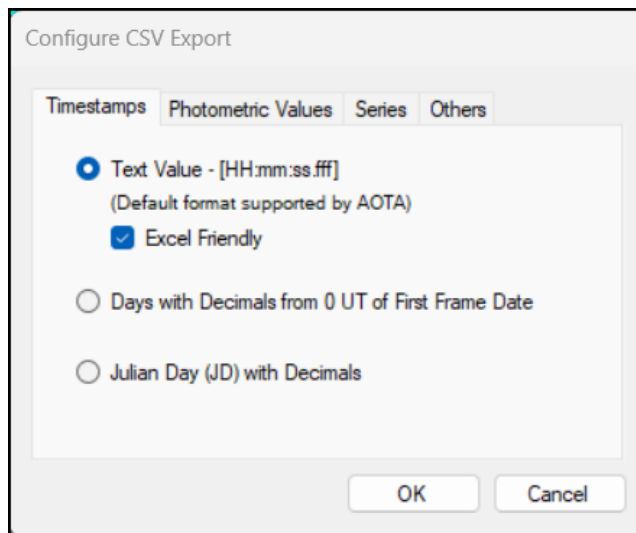
### Check TimeStamps Help

This module calculates the difference between the successive timestamps of the images in order to check their regularity. This difference must be equal to the exposure time plus or minus a few milliseconds.

If this difference is greater than the exposure time, the image is marked as "**Dropped**".

If this difference is greater than 5 ms but less than the exposure time, the image is marked as "**Jitter**".

After record of video, reduce this video with Tangra. Export the light curve as a .csv file (Default AOTA format).



The results of the calculations are displayed in the results window.

The full results are saved in the file

`<csv file name>_CTS<version>_Jitter=<val>_nJitt=<nb>_nDrop=<nb>.csv`

placed in the same directory as the csv file being analysed.

With a correct acquisition chain, the Jitter(3 Sigma) should be **less than 5 ms**.

#### NOTE:

With a laptop, it is essential to use an external power supply so as not to degrade the computer's performance.

#### IMPORTANT NOTE:

The CSV file may contain various anomalies detected or not by the software. In this case the results should be aberrant, check the contents of the CSV file.

It is up to the observer to think critically about the results displayed: "garbage in, garbage out".

## Example of results

### Example 1:

Total frames number: 794  
Mean : 300.0  
Stand. Deviation : 0.2  
Max : 301.0  
Min : 299.0  
Jitter ( $3\sigma$ ) : **0.6**

Jitter number : 0  
Dropped number : 0

No dropped frame, no jitter frame, low jitter(3 Sigma).  
There are no problems with the acquisition chain.

### Example 2:

Frames number : 1320  
Mean : 40.02  
Max : 146.0  
Min : 9.0  
Jitter(3 Sigma): **42.76**

Jitter number : **1234**  
Dropped number : **86**

An extreme example of Drop and Jitter frames. The exposure chosen of 20 ms does not correspond to the reality of 40 ms.  
Problems caused by a poor choice of recording parameters and a defective acquisition chain.  
The observer should have used an exposure time of 40 to 50 ms.

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