CMUNI2AAVSO-HowTo

Hopefully you have made your way here because you have utilized the RRORRT for variable star observations and now wish to make contributions to science.[1] This document accompanies the PC Windows compatible computer program CMUNI2AAVSO. It is an attempt to help facilitate the conversion of a light curve file generated by the photometry package CMUNIWIN[2] into an AAVSO[3] extended format acceptable to submit to the AAVSO[4].

Step 1: Generate a light curve file using CMUNIWIN with the appropriate choices. What does this mean? The stellar target and coordinates must be used as well as observatory location entered for the data, heliocentric Julian day should then be the output desired for the date/time and selection of heliocentric correction and airmass should also be selected when generating the light curve file.

The format of lightcurve.txt (default) from CMUNIWIN should look like this…

```
JDHEL V-C s1 V-K1 s2 C1-K1 s3 HELCOR AIRMASS ALTITUDE
Aperture: 1, Filter: g, JD: heliocentric
2456175.65873 -0.63823 0.03856 1.32272 0.02160 1.96095 0.03387 0.00569 1.45156 43.47
2456175.65918 -0.64224 0.03876 1.32227 0.02142 1.96452 0.03419 0.00569 1.44949 43.54
2456175.92488 -0.35244 0.17132 1.55804 0.10406 1.91049 0.14105 0.00568 4.25574 13.34
2456175.92533 -0.12839 0.15271 1.63969 0.10532 1.76808 0.11626 0.00568 4.29451 13.21
2456175.92622 99.99999 9.99999 99.99999 9.99999 99.99999 9.99999 0.00568 4.37327 12.96
2456175.92667 -0.54944 0.17463 1.21088 0.09791 1.76031 0.15166 0.00568 4.41431 12.83
2456175.92712 -0.48013 0.16852 1.35780 0.09687 1.83793 0.14406 0.00568 4.45616 12.71
2456175.92758 99.99999 9.99999 1.36126 0.13716 99.99999 9.99999 0.00568 4.49883 12.58
…
…
```

An entry of 99.999 for the magnitude is CMUNIWINs way of alerting the user there was some trouble with the photometry of that star in a particular image. The conversion program will ignore these data lines.

Step 2: Create a user input file from the template file CMUNI2AAVSO-input.txt. This will contain the parameters besides the photometry needed to create information that the AAVSO extended file format needs (e.g. star name, observer's AAVSO ID, AAVSO chart, comparison and check star identities and magnitudes, etc.). The format of this file looks like this…

```
CMUNI2AAVSO input file
This input file is read from the program CMUNI2AAVSO
in order to convert the lightcurve.txt
file generated by CMUNIWIN into an acceptable AAVSO extended format.
RJWA   AAVSO Observer code                    Example: RJWA
VarStarname   Target AUID, variable star (V)  Examples: UU AQR, 000-BDX-324
CompStarname  Comparison star ID (C)
10.3   Known Magnitude of comparison star in the desired filter
SG     Filter (Use AAVSO designation)
ChartName     AAVSO chart designation
CheckStarname Check star ID (K)
11.4   Known Magnitude of check star in the desired filter
```

Entries in bold are to be edited by the user for each photometric dataset that is to be converted into an AAVSO file. Be sure to see instructions[5] involving the AAVSO format desired for clarifications.

Step 3: Run the executable program CMUNI2AAVSO.exe. This should read in the lightcurve.txt file from CMUNIWIN, read in the user parameter input file CMUNI2AAVSO-input.txt and convert the photometric observations to the AAVSO extended file format in a file named lightcurve-aavso.txt.

I have tested this software on my PC running Windows 7 with the files contained in this distribution. If you have difficulties please let me know so that I can try to fix them as this program is out for "pre-beta" testing if that is such a thing. Can there be negative versions (i.e. CMUNI2AAVSO -0.1)?

Step 4: Enjoy your life as a contributing member to the scientific knowledge base of the universe.

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[1] https://www.aavso.org/sites/default/files/publications_files/ccd_photometry_guide/CCDPhotometryGuide.pdf

[2] http://c-munipack.sourceforge.net/

[3] https://www.aavso.org/ccd-photometry-guide

[4] https://www.aavso.org/sites/default/files/publications_files/ccd_photometry_guide/PhotometryGuide-AppendixC.pdf

[5] https://www.aavso.org/aavso-extended-file-format