Light Curve Viewer

Preface

Light Curve Viewer (LCV) is ‘a test workbench for different light-curve-related procedures’.

Currently, implements some methods from:

Andronov, I. L., (Multi-) Frequency Variations of Stars. Some Methods and Results, Odessa Astronomical Publications, vol. 7, p. 49-54 (1994) [1994OAP.....7...49A]

Andronov, I. L., Advanced Time Series Analysis of Generally Irregularly Spaced Signals: Beyond the Oversimplified Methods, Knowledge Discovery in Big Data from Astronomy and Earth Observation, 1st Edition. Edited by Petr Skoda and Fathalrahman Adam. ISBN: 978-0-128-19154-5. Elsevier, 2020, p.191-224 [2020kdbd.book..191A]

System Requirements

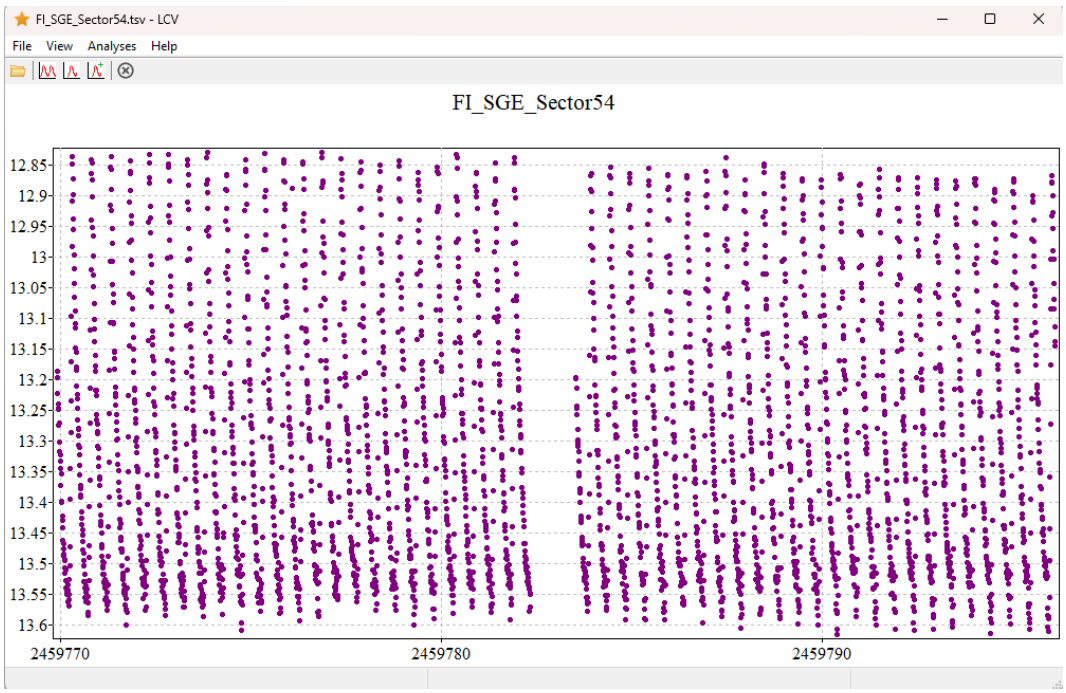
The program runs under Windows, tested under Windows 7, 10, 11.

Source files can be compiled under Linux (tested under Debian 9) using Lazarus/FreePascal (tested with Lazarus 3.8, Free Pascal 3.2.2)

Main program window

The main program window contains a chart showing loaded data. Use File->Open to load data from a text file (see ‘Input file format’).

After loading, the data is displayed as a ‘scatter chart’:



Manipulating chart:

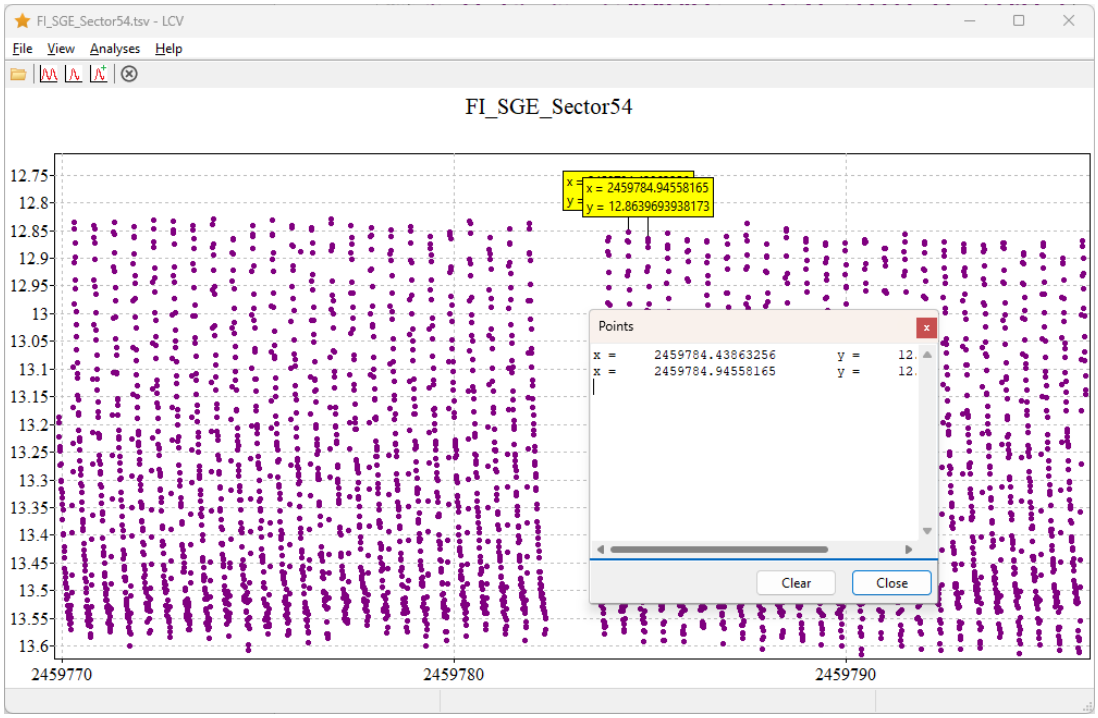
Ctrl + Left Mouse Button: select a part of the chart (zoom)

Shift + Left Mouse Button: shift the viewport (panning)

Ctrl + Left Mouse Button Click: restore the original view

Left Mouse button click: add a label to the clicked point. To remove the label, click the point again.

Ctrl + Shift + Left Mouse button click: add a label to the clicked point and show the coordinates in a small window



Clicking the right mouse button on the chart opens a popup menu with two functions:

- copy the chart image to Clipboard
- save the chart image to a PNG file

<to-do: menu commands>

Periodogram

<to-do>

Polynomial approximation

<to-do>

Input file format

After installation, you can find example files in the **Documents\lcv_testdata** folder.

Text files with data must contain at least two columns, separated by spaces or tabs. If the columns are separated by tabs, each tab is considered one separator (spaces in this case are ignored). If the columns are separated by spaces, repeating spaces are considered one separator; leading spaces are ignored.

Only the first and the second data columns are read. The first column must contain X-values (i.e., dates) and the second – Y values (i.e., magnitudes or fluxes).