

**Photoelectric minima of BR Cygni and maxima and minima of V2367 Cygni**

Lienhard Pagel and Joachim Hübscher

E-Mail: publikat@bav-astro.de

**BAV Mitteilungen No. 243**

August 2016

**Abstract:** In this 85th compilation of BAV results photoelectric observations obtained by Kepler space observatory in the years 2009 till 2013 are presented on one eclipsing binary and one RR-Lyrae-Star giving 9,232 maxima and minima.

We took a closer look to the data of the Kepler-space observatory and searched through the survey looking for measurements from BR Cygni and V2367 Cygni.

Lienhard Pagel evaluates 2,177 minima upon BR Cygni and 7,055 maxima and minima upon V2367 Cygni between JD 245 4953 and JD 245 6423.

The maximum times were measured as follows: it is been calculated a Fourier-approximation of the light curve near the maximum or minimum. This is been done for each extremum. The displacement of a measure point to the approximated light curve is better the 0.1 mmag. The time of the extremum is determined by finding of the extremum in the approximated curves.

The variance of the times is about 2 minutes for llc (long cadence calibrated light curves) Kepler data and about 10 s for slc (short cadence calibrated light curves) data. The sampling rate of slc is 1468 per day and for llc is 49 per day. The variance is evaluated by O-C-diagram. Fig 1 shows one example.

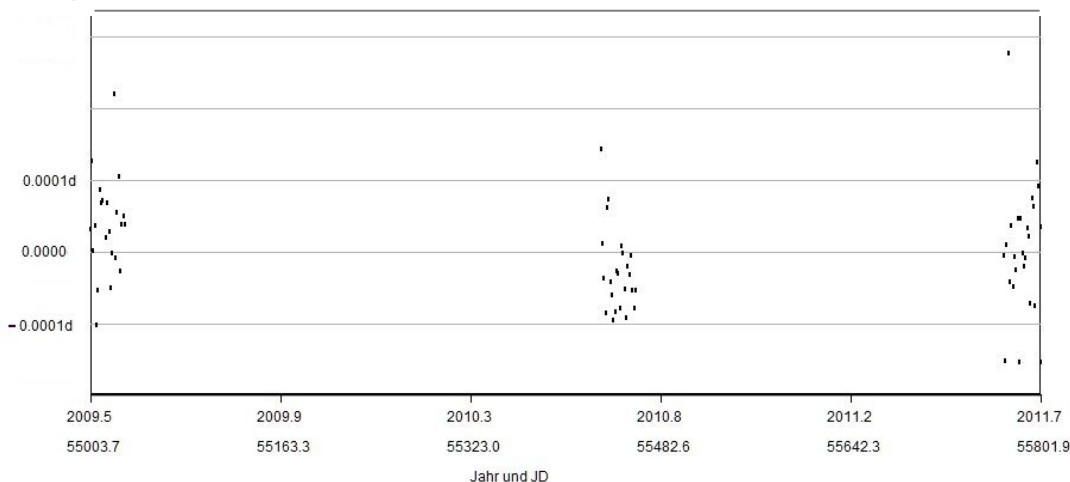


Fig 1: O-C-diagram for slc data of BR Cyg (examples). 0,0001d = 8,6 s:

The following figures show examples for the evaluation of these stars. The data are not part of the paper, they are attached in the appendix.

**Please use the following link for an easy access to all the publications of the BAV:**  
<http://www.bav-astro.de/sfs>.

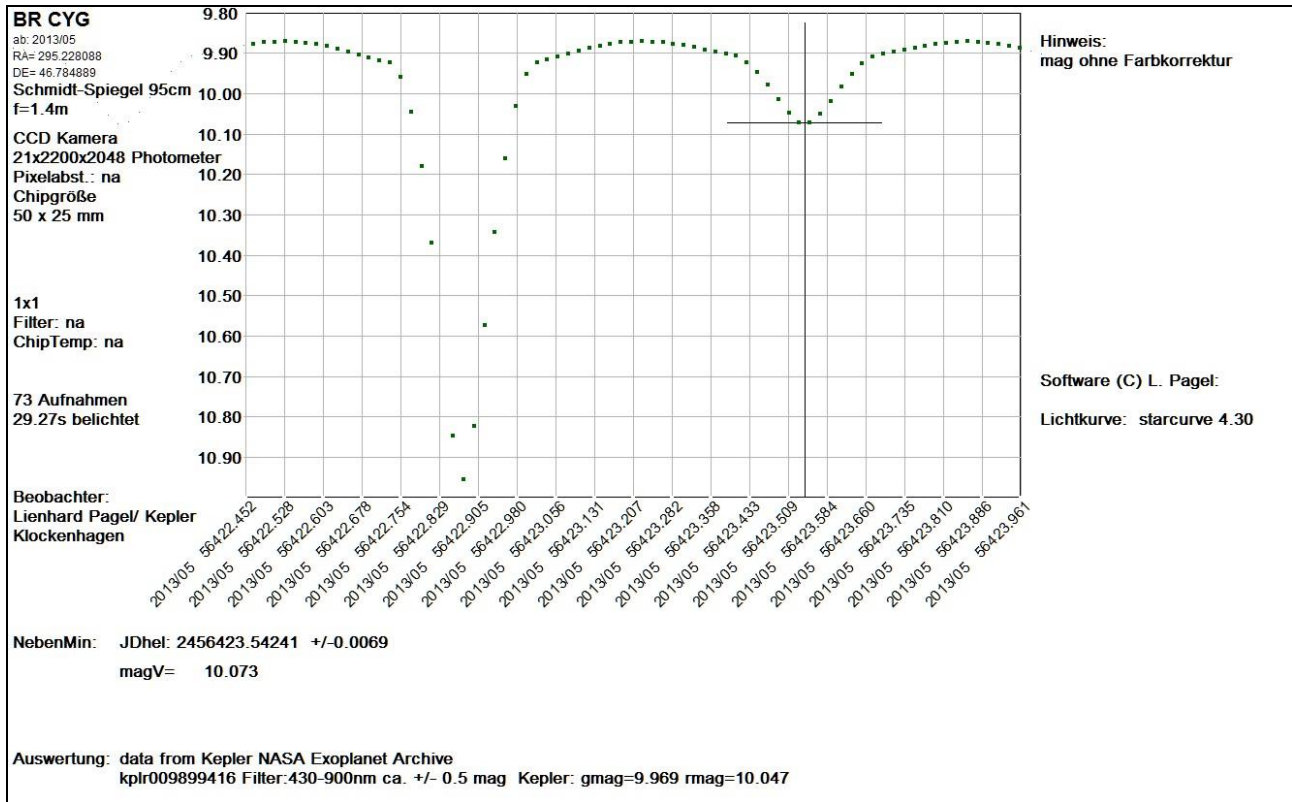
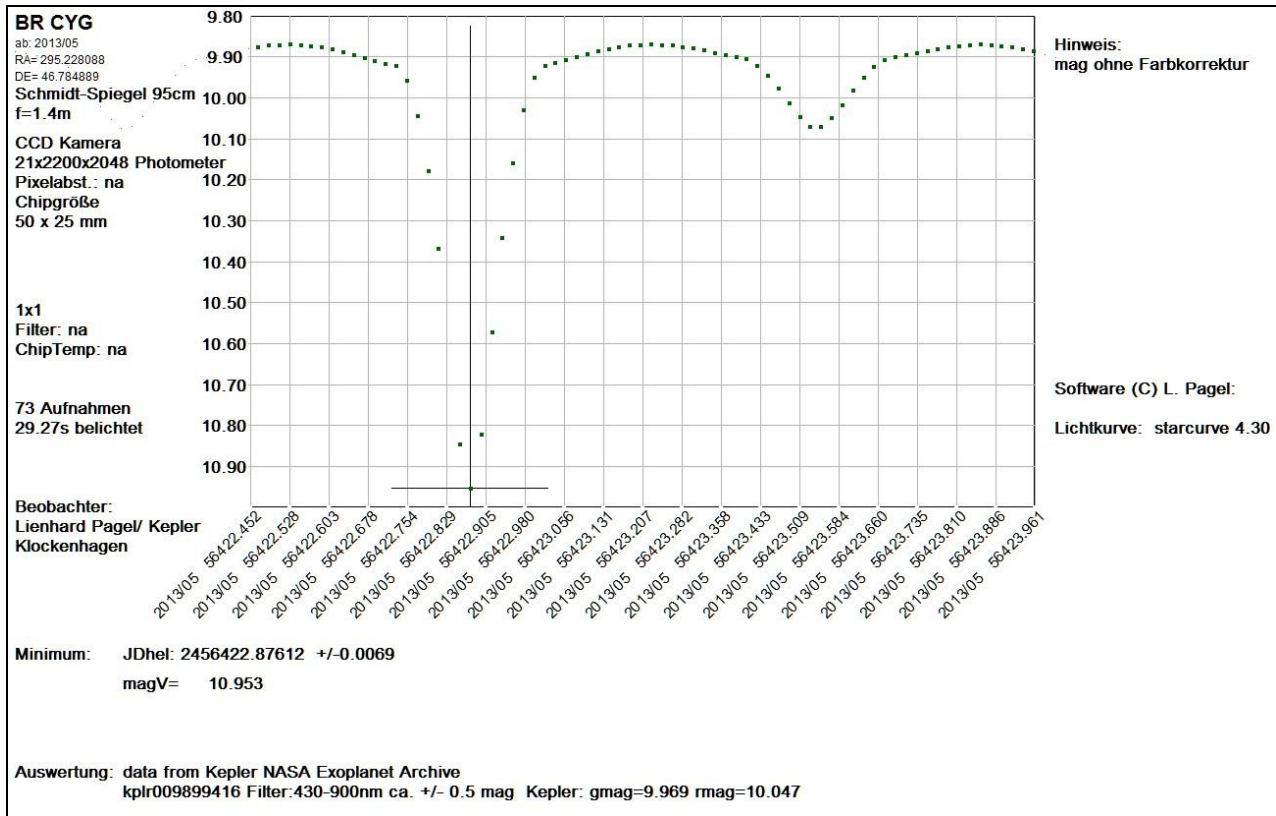


Fig 2: BR Cyg: Minima of an exemplary Ila light curve.

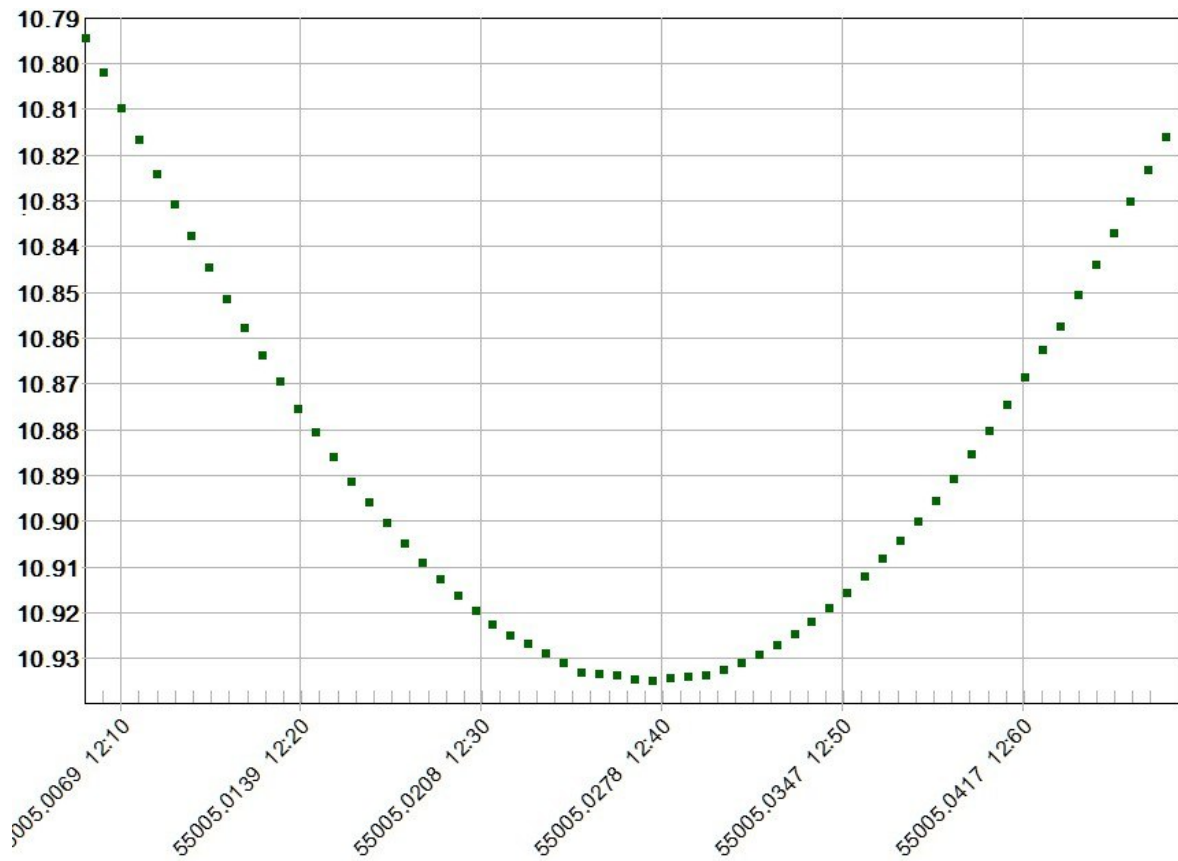


Fig 3: Exemplary minimum of a Ila light curve (BR Cyg).

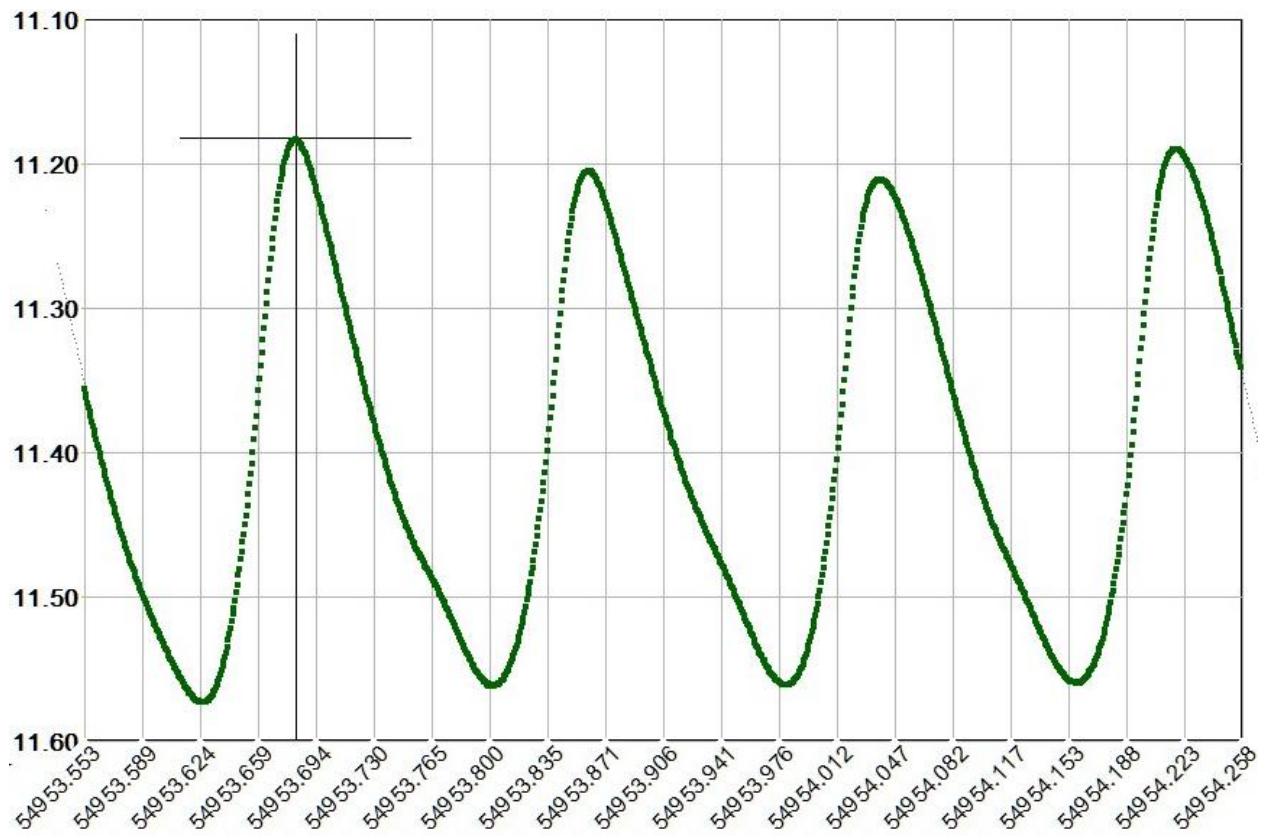


Fig 4: V2367 Cyg: 4 exemplary periods of a slc (short cadance) light curve.

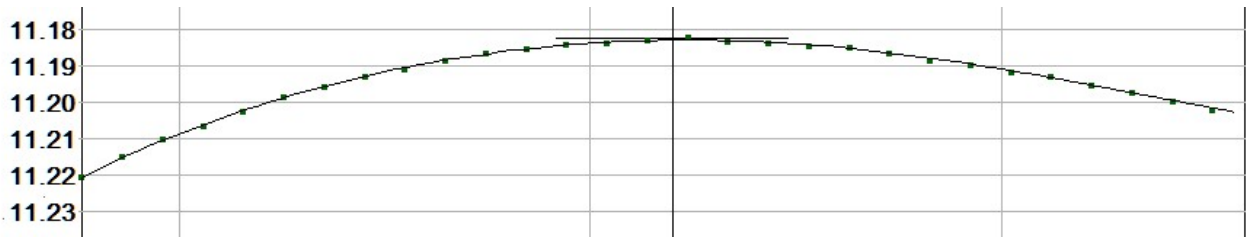


Fig. 5: V2367 Cyg: Exemplary maximum of a slc-lightcurve and the Fourier approximation.

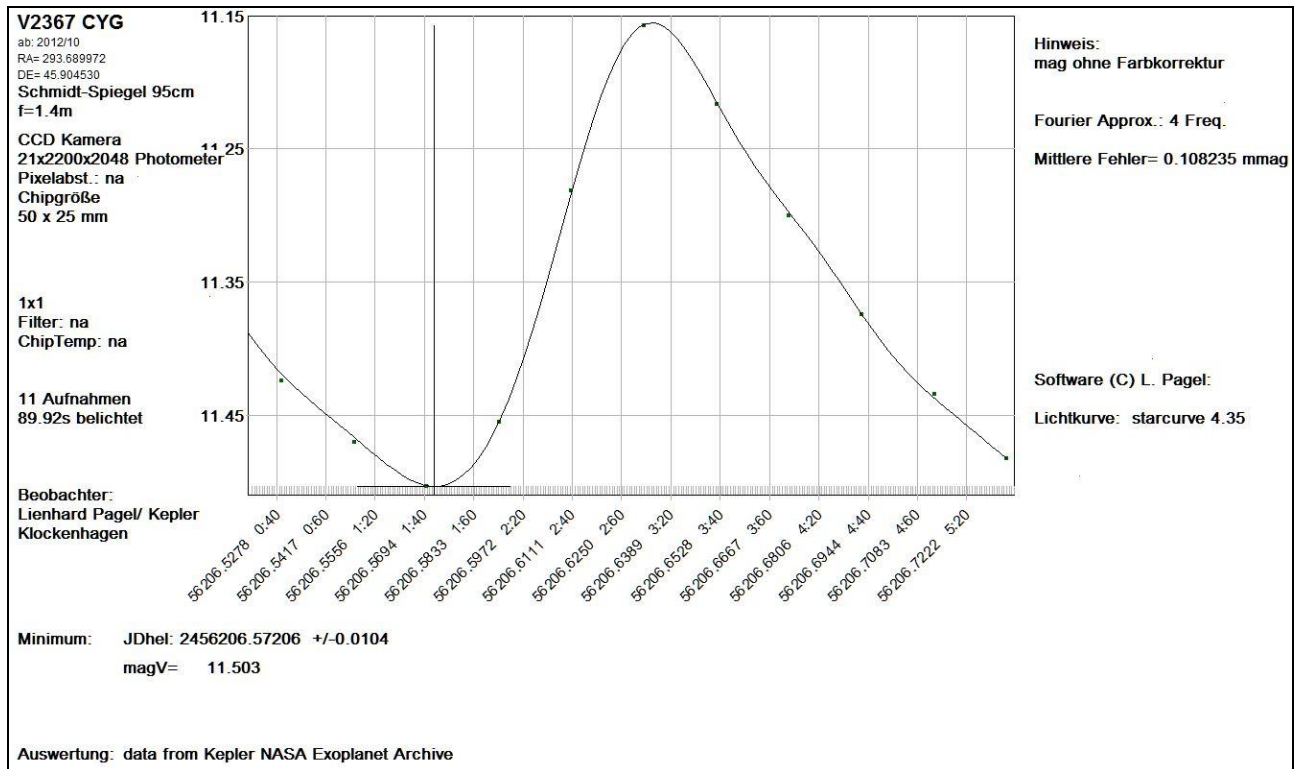


Fig 6: V2367 Cyg: Exemplary minimum of a IIa light curve and the Fourier approximation.

We take use of data from the Kepler-Website:

[http://exoplanetarchive.ipac.caltech.edu/applications/ETSS/Kepler\\_index.html](http://exoplanetarchive.ipac.caltech.edu/applications/ETSS/Kepler_index.html)

Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne e.V. (BAV)  
 BAV Munsterdamm 90, 12169 Berlin, Germany, [zentrale@bav-astro.de](mailto:zentrale@bav-astro.de)  
[www.bav-astro.de](http://www.bav-astro.de)