

Source: http://abyss.uoregon.edu/~js/images/eclipsing_binary.gif

Search for Variable Stars in the WTS Database

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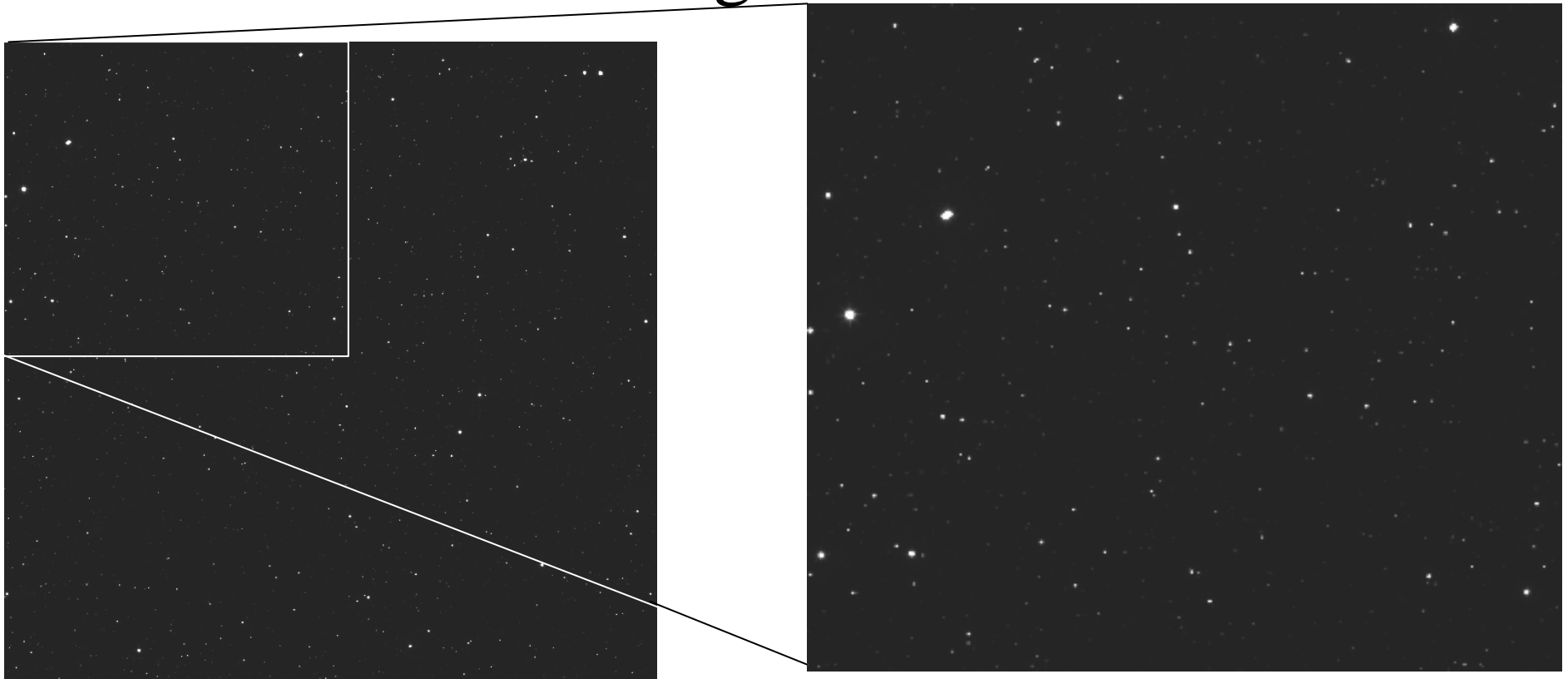
Who Am I?



- Born in Varna, Bulgaria, the only city on the Balkans with 2 Planetariums
- In June 2009 graduated with a BSc in Earth and Space Sciences from Jacobs University Bremen, Germany
- Since end of January 2010 at LAEX in Madrid, Spain

WTS Survey Release 0.1

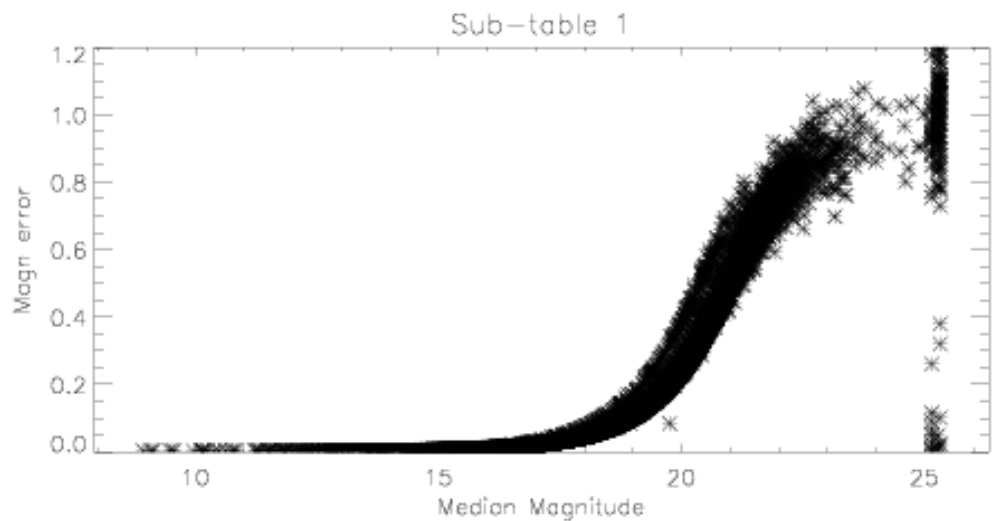
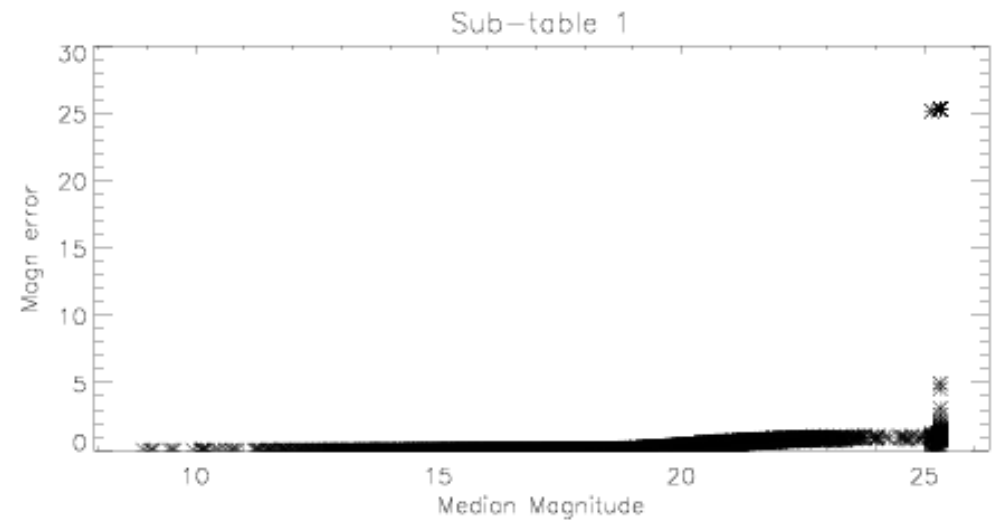
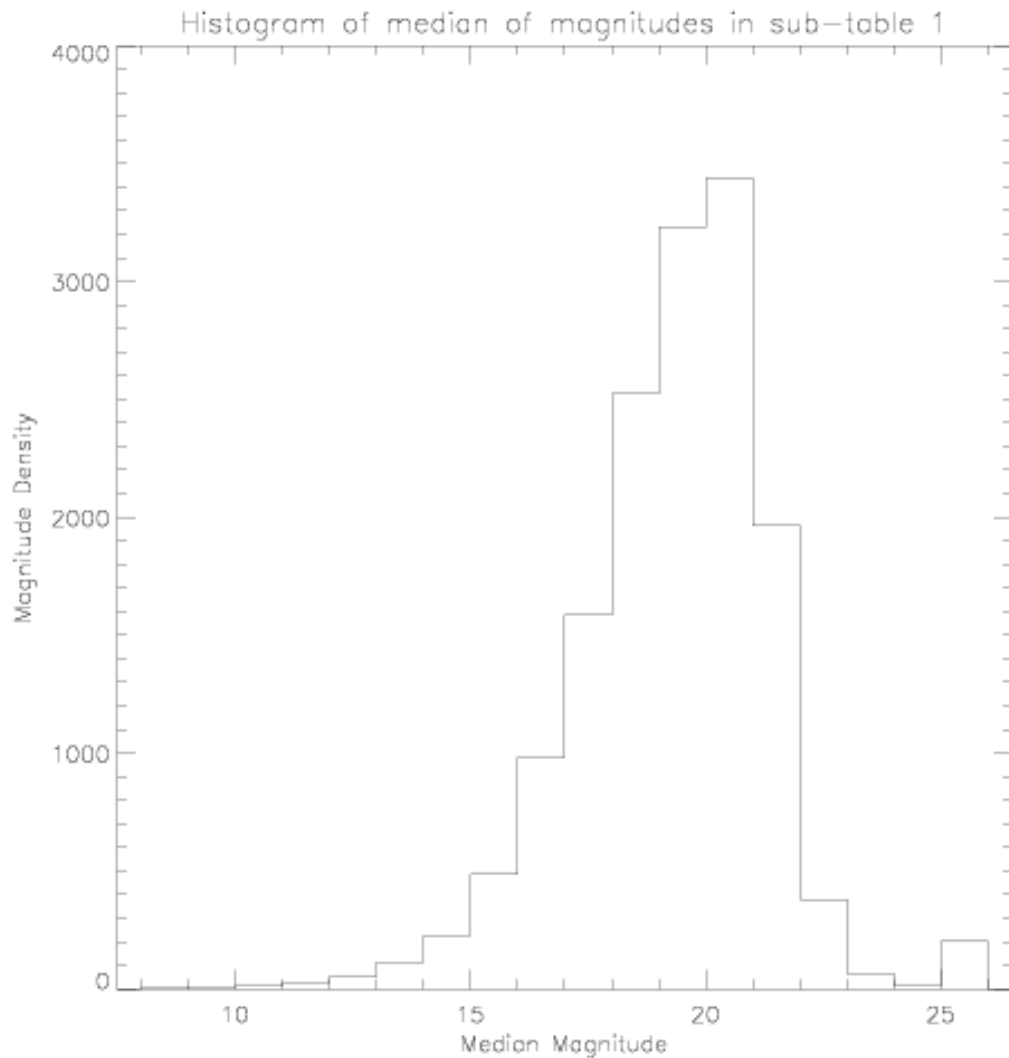
- Search for variable stars in the FOV
- Narrow down my selection only to one of the detectors – 15000 light curves

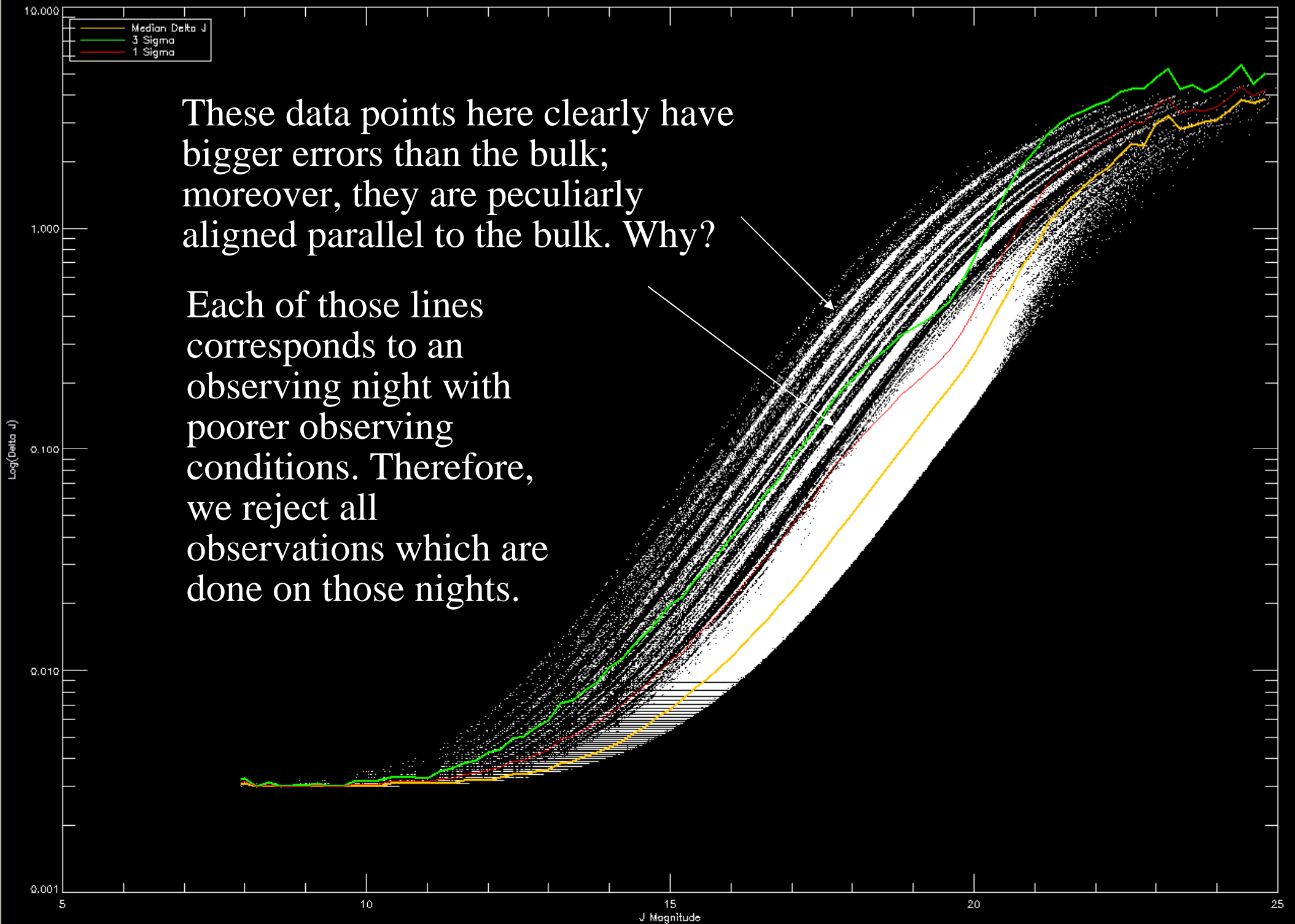


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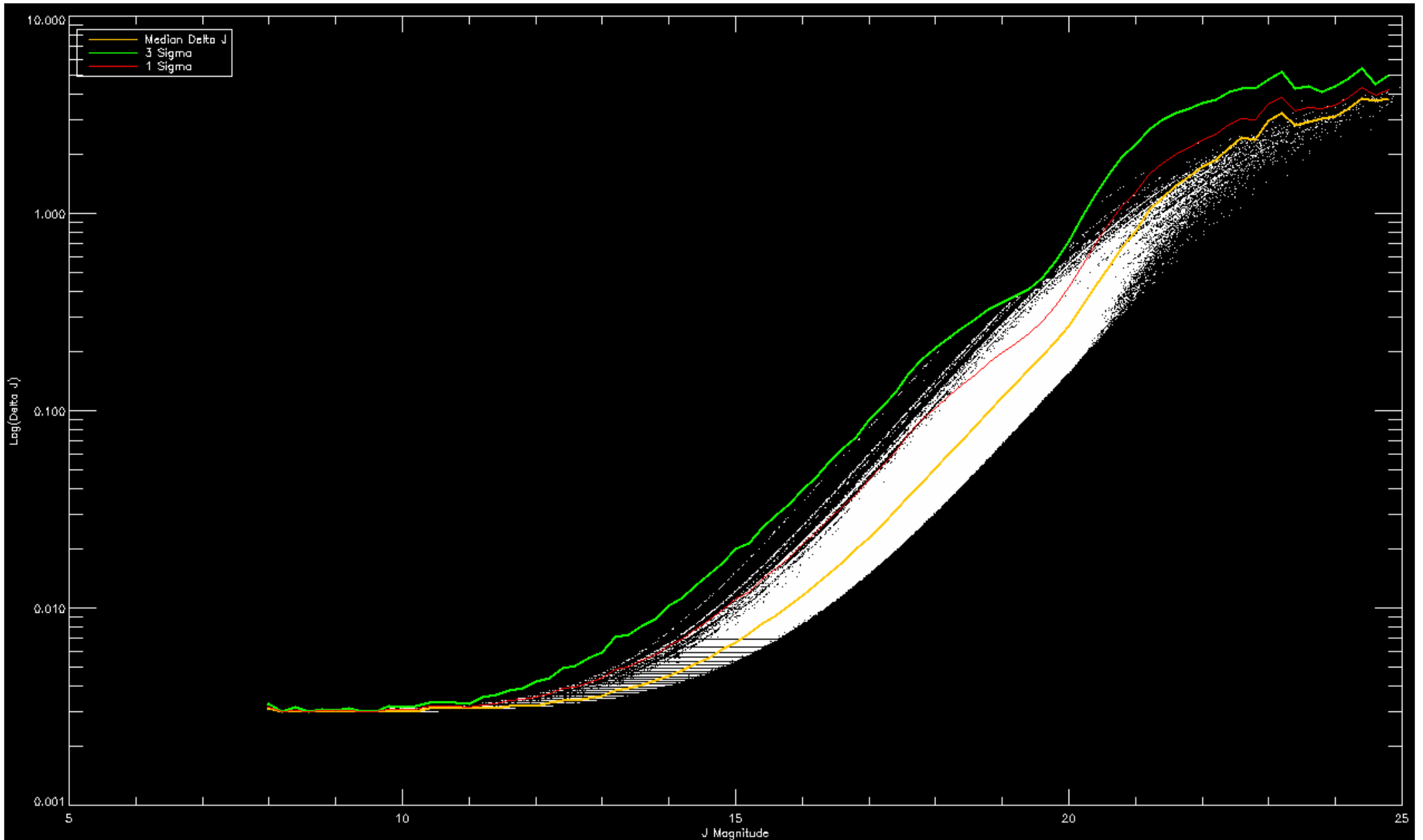
- Pipeline (with very generous rejection criteria):
 - Remove light curves with median mag $J > 20$
 - Remove flagged measurements ($J > 25$)
 - Remove light curves with less than 20 datapoints
 - Up to this point, out of 15302 light curves, 6055 are rejected (40%)

Statistics of Detector 1 WTS Survey Release 0.1





Final clean-up of light curves

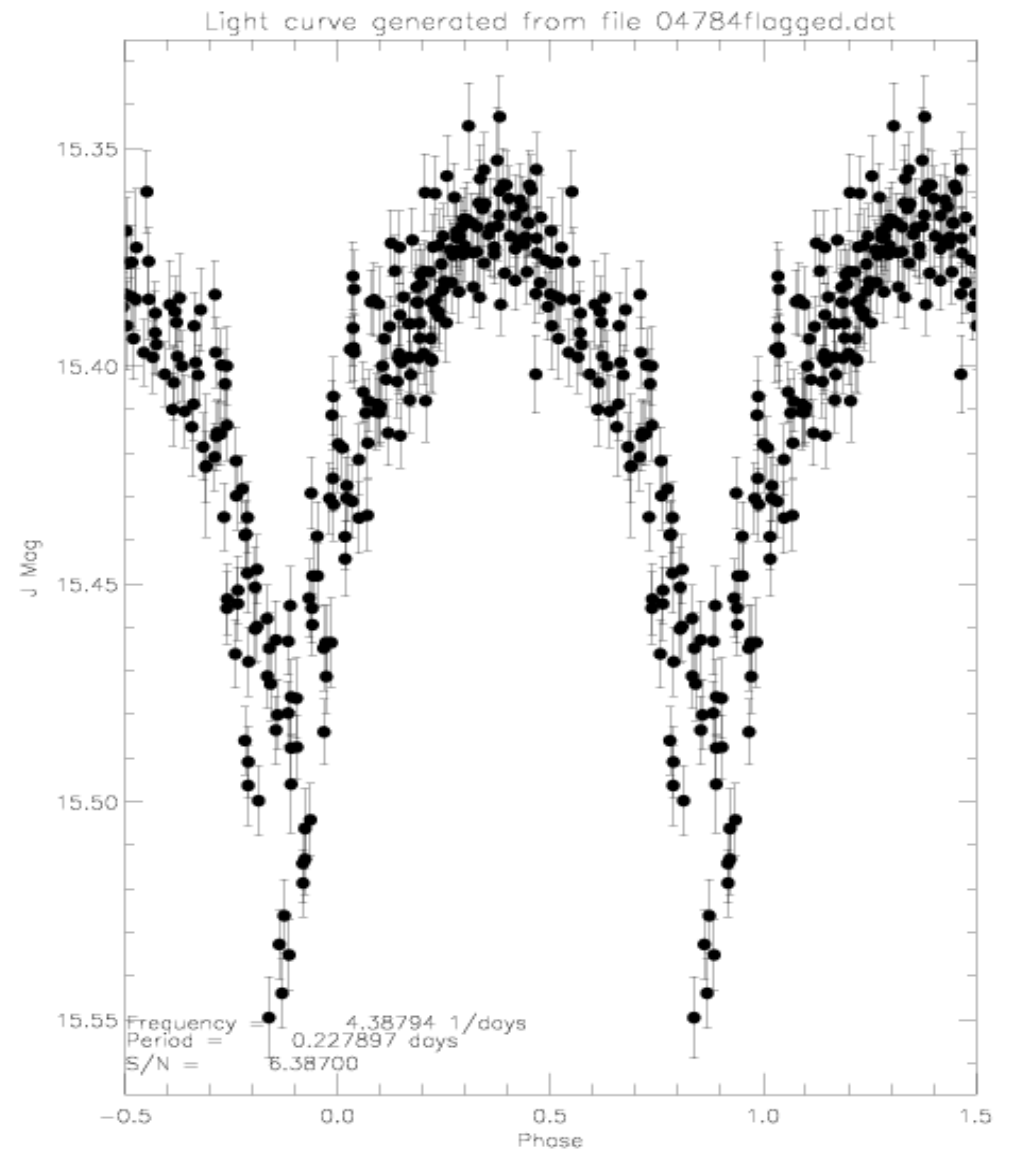
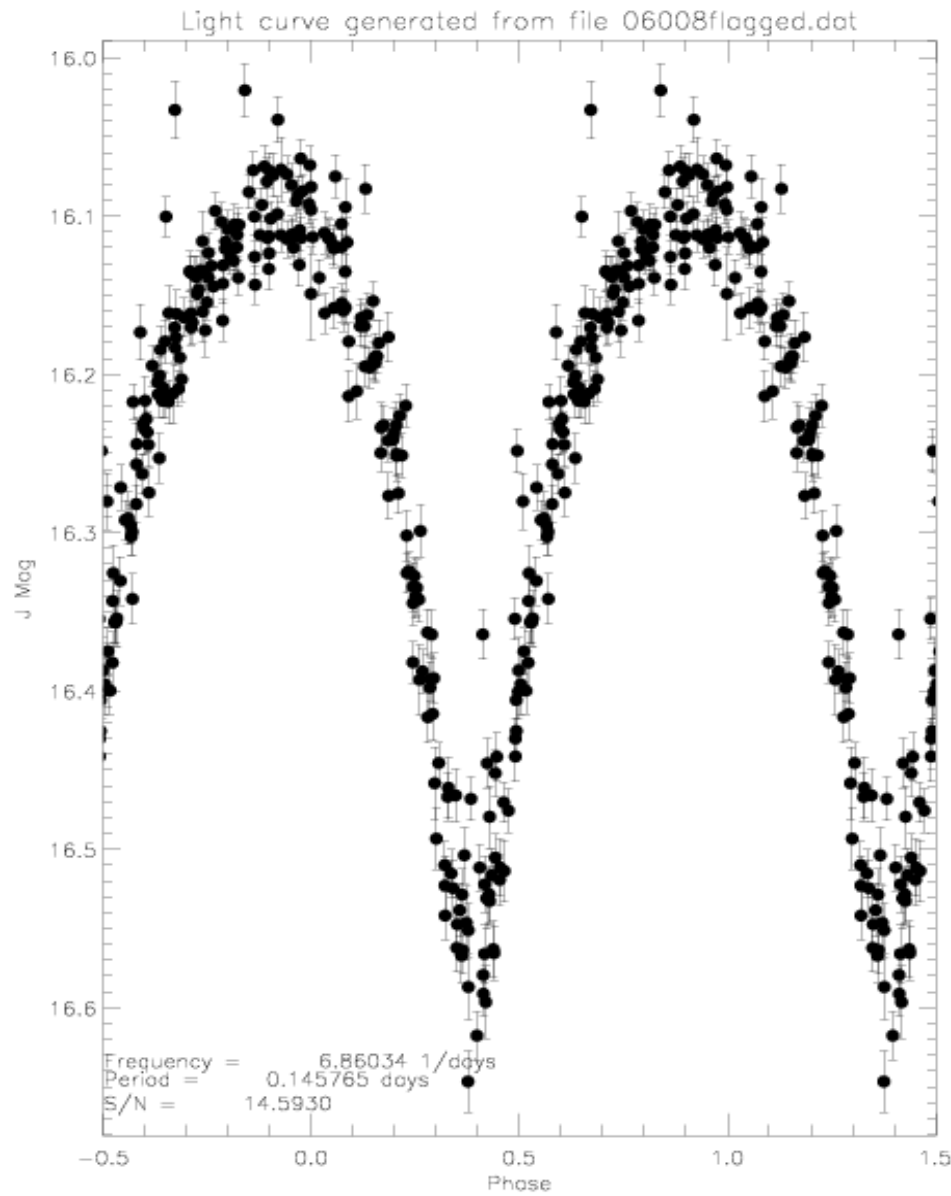


Pipeline cont.

- ‘Clean’ light curves given to software package
 - Result: significant frequencies and amplitudes
 - We use amplitude and median error as a proxy to S/N ratio and later reject stars with low S/N ratio (< 1)
 - Consider stars with reasonable amplitudes (< 5) and with frequencies which are not aliasing frequencies
- As a result, we have 85 stars – 51 monophasic and 34 biperiodic stars

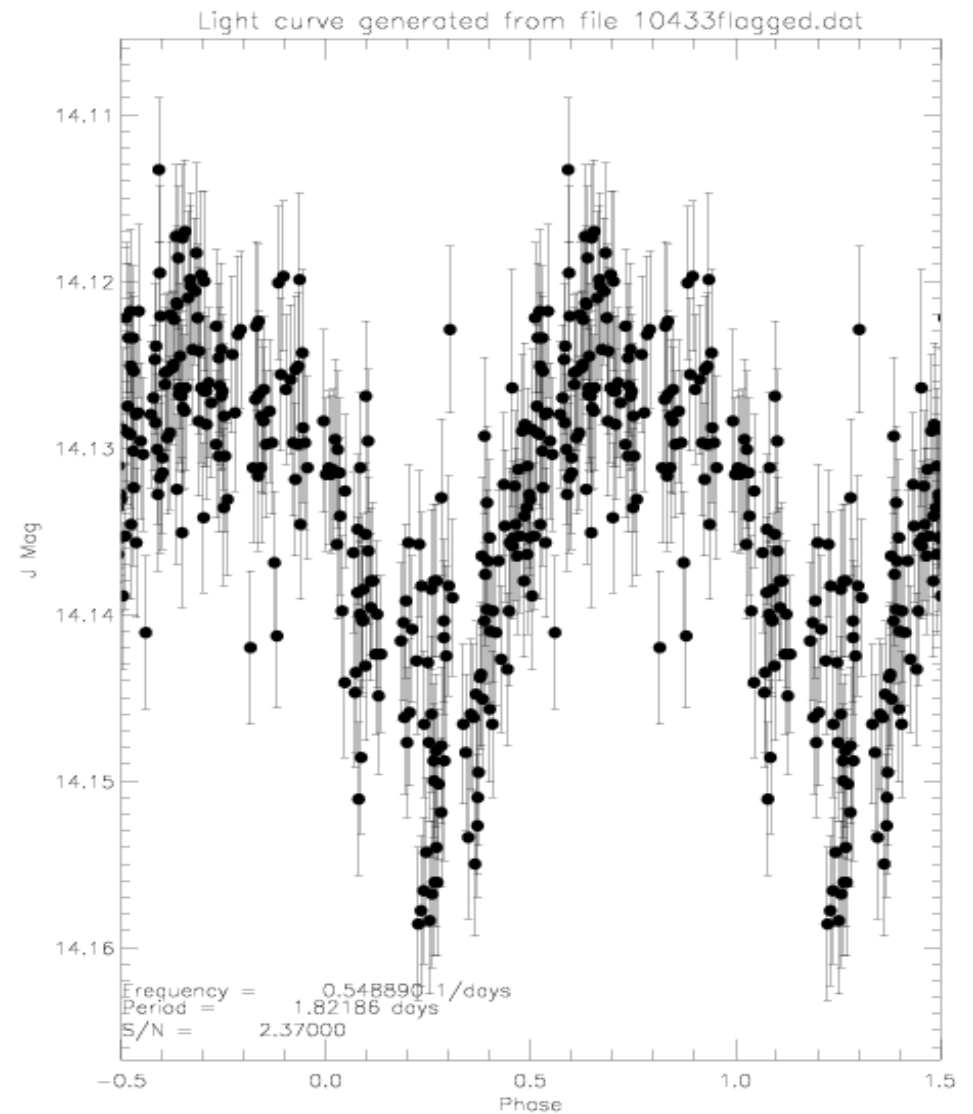
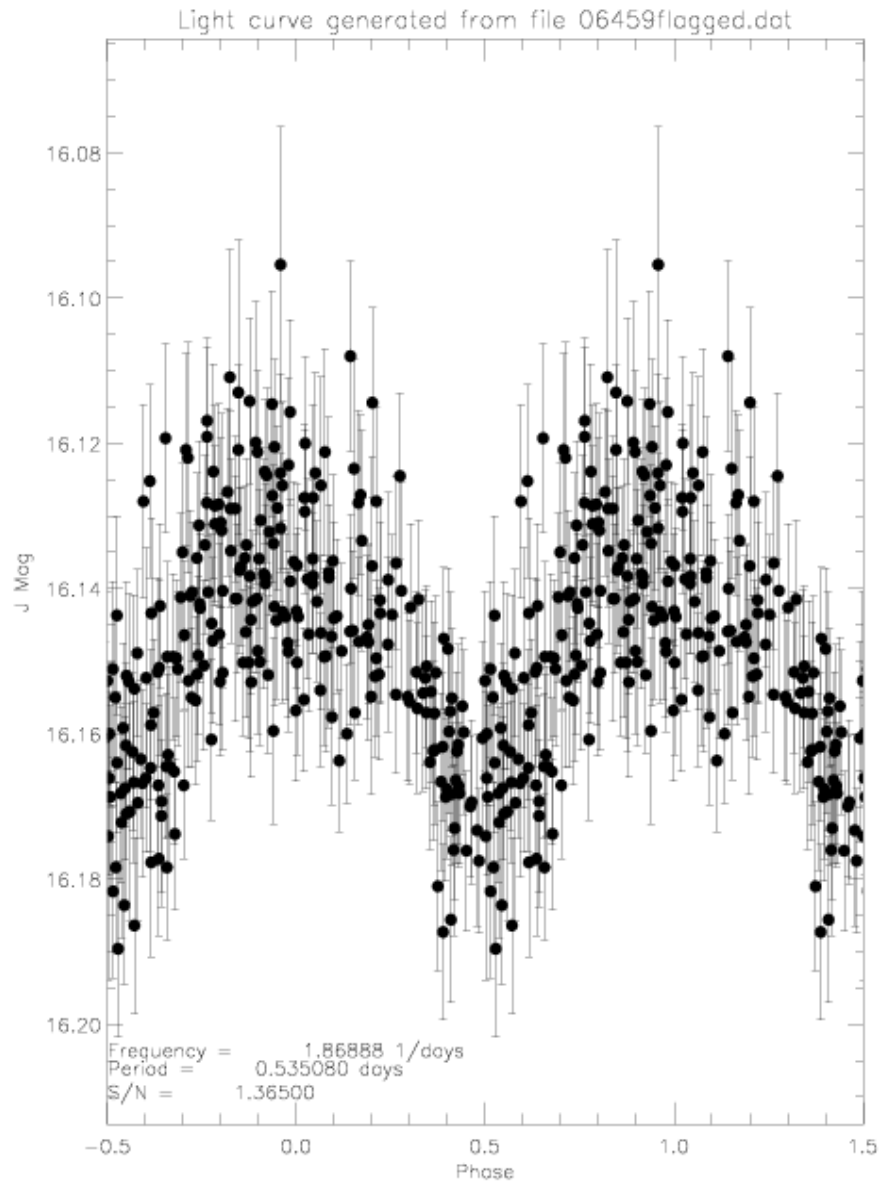
Some nice results

Work in progress...



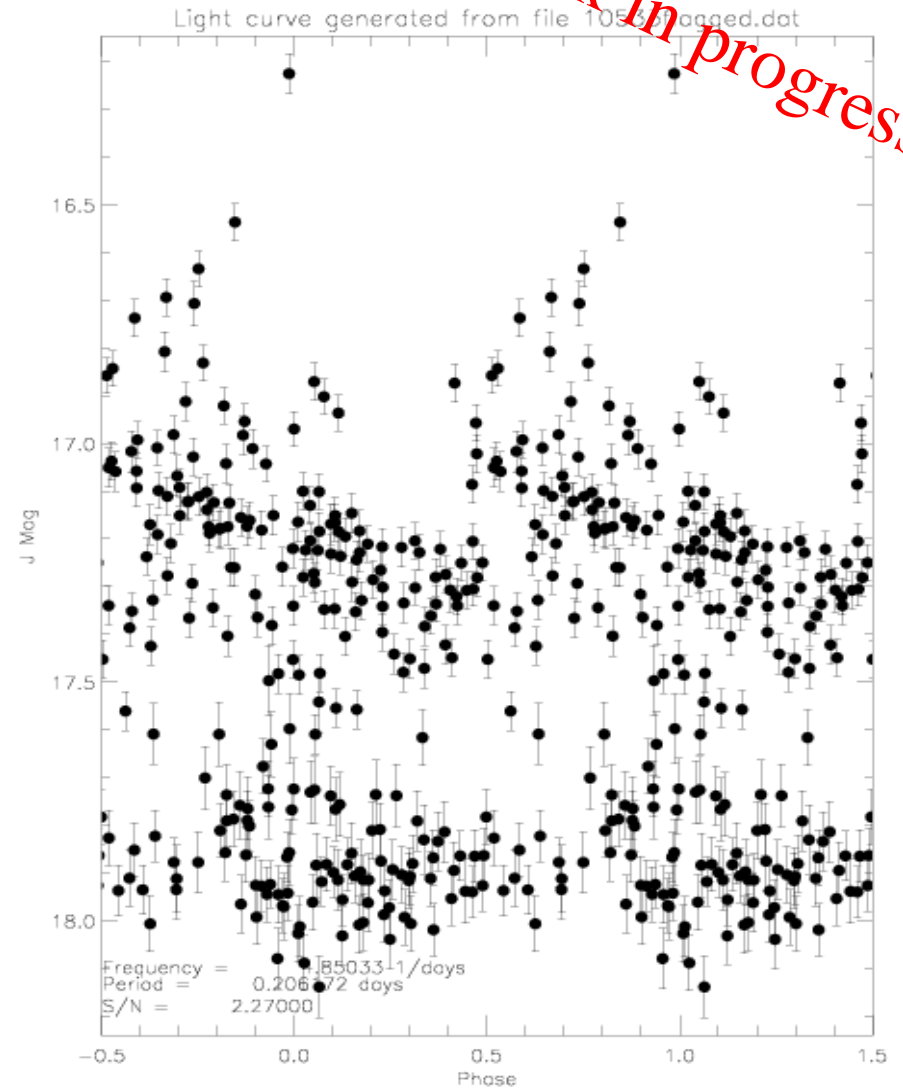
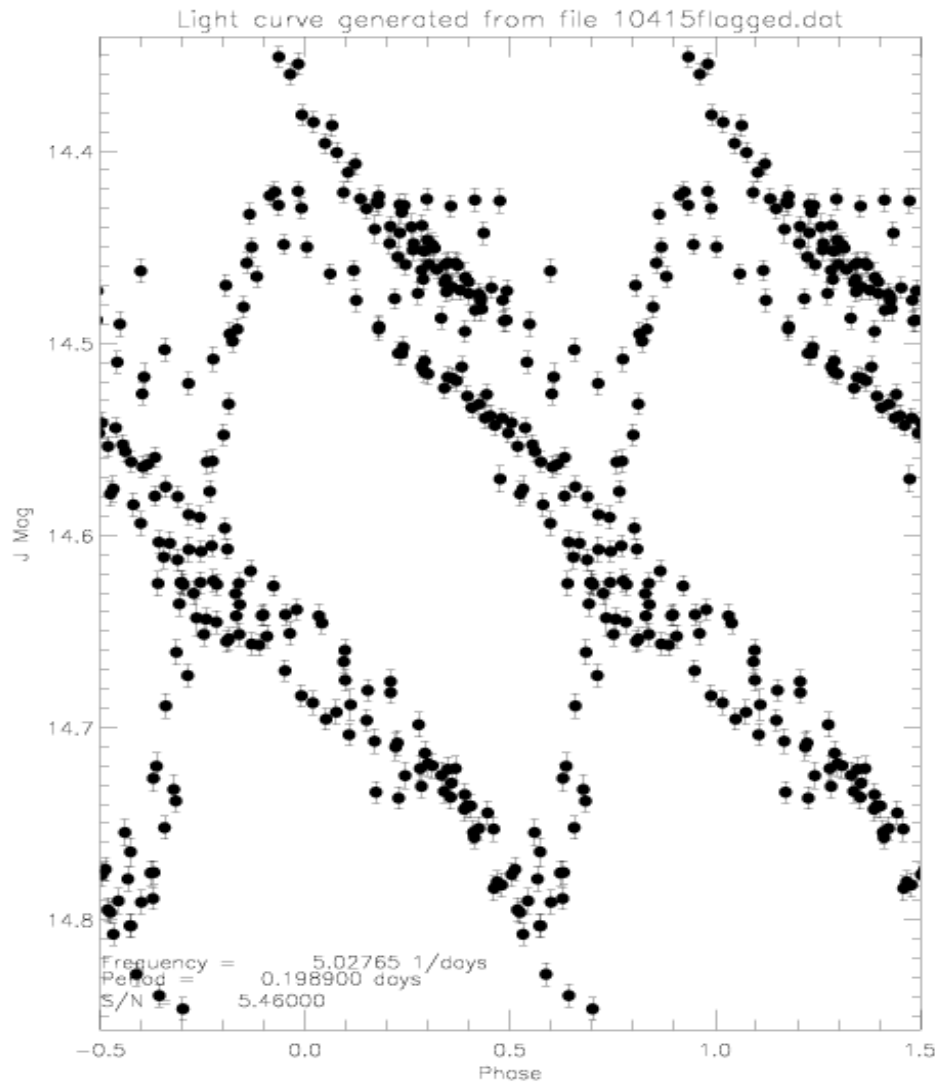
More nice results

Work in progress...

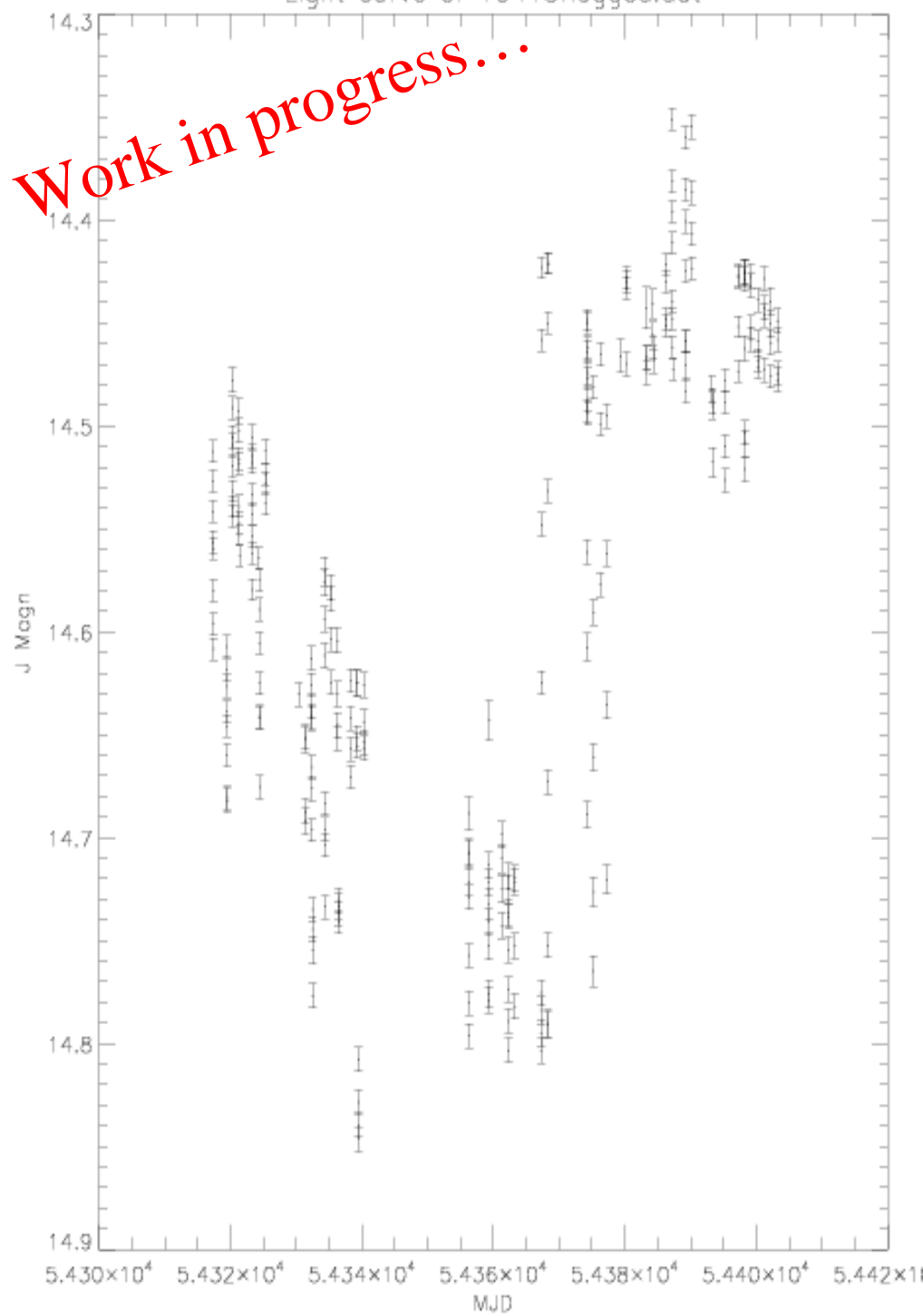


... and also some weird ones...

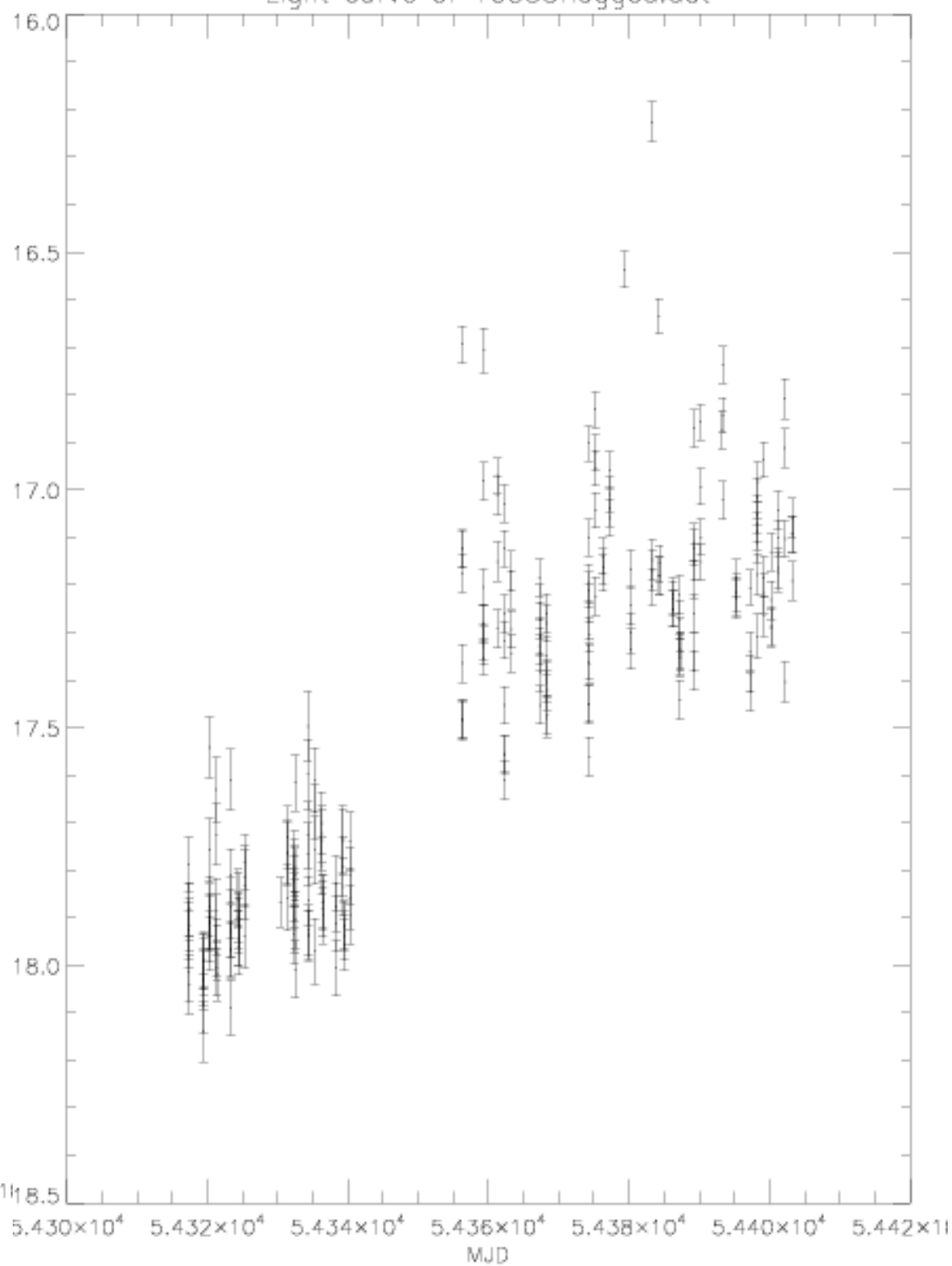
Work in progress...



Light curve of 10415flagged.dat



Light curve of 10533flagged.dat



Questions or Comments?



**Thank you for your
attention!**