On the importance of classification of BL Her type II Cepheids

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Abstract

As the preparation phase of the Kepler 2 mission is on the way, it was obvious that we, astronomers, relay on the previous work done in the classification of individual object. During my research connected to BL Her type II Cepheids I used the General Catalog of Variable Stars as a starting point, and was surprised to see that many objects misclassified.

My work stared out as a project for looking for period changes, binarity, or any other signs of change typical to the Type II Cepheid. The GCVS contained 71 objects of this kind, and the SIMBAD is heavily relying on it. The data was collected from ASAS, AAVSO, CATALINA, LINEAR, SuperWASP, NSVS surveys from the Internet, and from individual articles for stars were no other data was available. The OGLE and MACHO databases were left out, because at this time they are already well studied.

Surprisingly, there is a discrepancy in the classification of the stars in this subtype. Even up to 50% might not be not Type II Cepheids, some of them are RR Lyrae types, some are eclipsing binaries, there is a dwarf novae, and some stars show peculiar variation in their light curves worth of further studying.

Here I would like to present these stars, and the work done so far with them.

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