

ANALYSIS OF THE HW VIR TYPE STAR ASAS 102322-3737.0

Veronika Schaffenroth

*Dr. Karl Remeis-Observatory & ECAP, Astronomical Institute,
Friedrich-Alexander University Erlangen-Nuremberg,
Sternwartstr. 7, 96049 Bamberg, Germany*

Subdwarf B (sdB) stars are core helium burning stars with thin, inert hydrogen envelopes. They are important in context of galaxy evolution because they could be the dominant source for the "UV upturn" in elliptical galaxies. However, their formation is not understood very well until now. They must have experienced huge mass loss on the red giant branch. In recent years it has been discovered that many sdBs are in close binaries with periods from a few hours to several days, with either white dwarf or M-dwarf companions. They are most probably formed via common envelope ejection. Amongst them, the HW Vir stars which are eclipsing binaries consisting of a sdB and a M-dwarf star, are of special importance for the understanding of the formation of sdB stars because it is possible to constrain the parameters of both components tightly by combining spectroscopic and lightcurve analyses. However, only few HW Vir stars are known today. ASAS 102322-3737.0 is a recently discovered HW Vir star. We report the analysis the analysis of SuperWASP and ASAS (BVI) lightcurves. We also measured the radial velocity curve which allows us to convert the relative parameters from lightcurve analysis in absolute ones. In the light of these results we discuss the nature of the companion and the origin of the system.