
A pulsating sdB star in 2M 1938+4603 has two companions

Adam Blokesz^{*1}, Andrzej Baran¹, and Stanislaw Zola^{1,2}

¹Mt. Suhora Observatory, Pedagogical University, Krakow, Poland – Poland

²Astronomical Observatory of the Jagiellonian University, Krakow, Poland – Poland

Abstract

We present a preliminary analysis of 2M1938+4603 star. It is an eclipsing binary system consisting of a primary sdB star and a secondary M dwarf. The photometric data are dominated by mutual eclipses and a very strong reflection effect. The primary star has a fairly rich pulsation spectrum which can be used to study stellar interior of the sdB star. On the other hand the pulsations affect the binary trend and vice versa what makes the analysis very difficult. Therefore, we attempt at proper modeling of the binary trend and its removal from the data so it does not affect the Fourier analysis of stellar pulsations. In this poster we focus on mid-times of over 16 000 primary and secondary minima, which were used to verify a stability of the orbital period. The O-C diagram indicates possible parabolic and sinusoidal variations, commonly explained by period changes caused by evolution and a presence of a third body, respectively.

^{*}Speaker