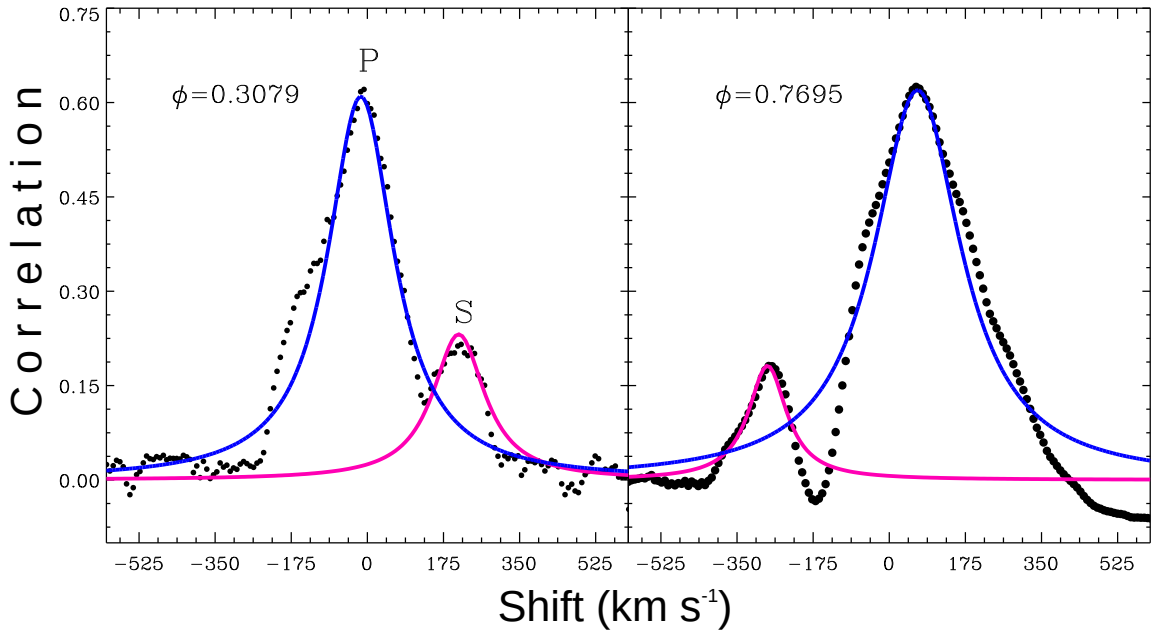

Fig. 1. Sample of Cross Correlation Functions (CCFs) between V1898 Cyg and the radial velocity template spectrum (Vega) at four different orbital phases. The color figure can be viewed online.

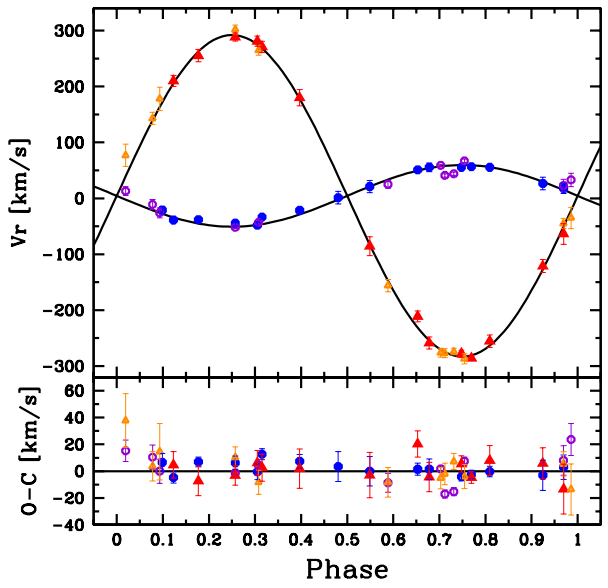

Fig. 2. Radial velocities of the primary (dots) and secondary stars (triangles) folded on an orbital period of 1.513126 days. The velocities obtained at the Catania observatory are indicated by filled symbols while those obtained at the National Observatory of Turkey by open symbols. The vertical lines show error bars of each radial velocity. The residuals between the observed and computed RVs are plotted in the lower panel. The color figure can be viewed online.

Figure 1 shows examples of CCFs of V1898 Cyg near the first and second quadrature. The two non-blended peaks correspond to each component of V1898 Cyg. We applied the cross-correlation technique to five wavelength regions with well-defined absorption lines of the primary and secondary components. These regions include the following lines: Si III 4568 Å, Mg II 4481 Å, He I 5016 Å, He I 4917 Å, He I 5876 Å. The stronger CCF peak corresponds to the more massive component that also has a larger contribution to the observed spectrum. To better evaluate the centroids of the peaks (i.e. the radial velocity difference between the target and the template), we adopted two separate Gaussian fits for the case of significant peak separation.

The radial velocity measurements, listed in Table 1 together with their standard errors, are weighted means of the individual values deduced from each order. The observational points and their error bars are displayed in Figure 2 as a function of orbital phase as calculated by means of the linear part of the ephemeris given in equation (2). The radial velocities of the secondary component of V1898 Cyg are presented for the first time in this study. The simultaneous analysis of both curves shows the semi-amplitude of the more massive, more luminous component to be $K_1 = 55.2 \pm 0.8$ km s^{-1} and $K_2 = 287.6 \pm 2.1$ km s^{-1} for the secondary component, with a systemic velocity of 4.4 ± 0.8 km $^{-1}$.