Marginally low mass ratio close binary system V1191 Cyg

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In this study, we present photometric and spectroscopic variations of the extremely small mass ratio ($q\simeq 0.1$) late-type contact binary system \astrobj{V1191 Cyg}. The parameters for the hot and cooler companions have been determined as $M_\textrm{h}$ = 0.13 (1) $M_{\odot}$, $M_\textrm{c}$ = 1.29 (8) $M_{\odot}$, $R_\textrm{h}$ = 0.52 (15) $R_{\odot}$, $R_\textrm{c}$ = 1.31 (18) $R_{\odot}$, $L_\textrm{h}$ = 0.46 (25) $L_{\odot}$, $L_\textrm{c}$ = 2.71 (80) $L_{\odot}$, the separation of the components is a= 2.20(8) $R_{\odot}$ and the distance of the system is estimated as 278(31) pc. Analyses of the times of minima indicates a period increase of $\frac{dP}{dt}=1.3(1)\times 10^{-6}$ days/yr that reveals a very high mass transfer rate of $\frac{dM}{dt}=2.0(4)\times 10^{-7}$$M_{\odot}$/yr from the less massive component to the more massive one. New observations show that the depths of the minima of the light curve have been interchanged.

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