

Table 1: Median Reduced  $\chi^2$ : 0.9 – Maximum-Likelihood Reduced  $\chi^2$ : 1.25

Parameter	Median and $1\sigma$ Values	Maximum-Likelihood
$P$ [days]	$418.41^{+0.48}_{-0.48}$	418.53
$t_{tran}$ [BJD - 2454833]	$3335.52^{+0.80}_{-0.79}$	3335.29
$\sqrt{e}\cos\omega$	$-0.2671^{+0.0074}_{-0.0072}$	-0.2649
$\sqrt{e}\sin\omega$	$0.3270^{+0.0048}_{-0.0048}$	0.3272
$K$ [km/s]	$10.465^{+0.032}_{-0.030}$	10.462
$\gamma$ [km/s]	$-7.543^{+0.037}_{-0.036}$	-7.555
$\sigma_j$ [km/s]	$0.033^{+0.025}_{-0.021}$	0.008
$e$	$0.1783^{+0.0044}_{-0.0043}$	0.1772
$\omega$ [deg]	$129.24^{+0.94}_{-0.96}$	128.99

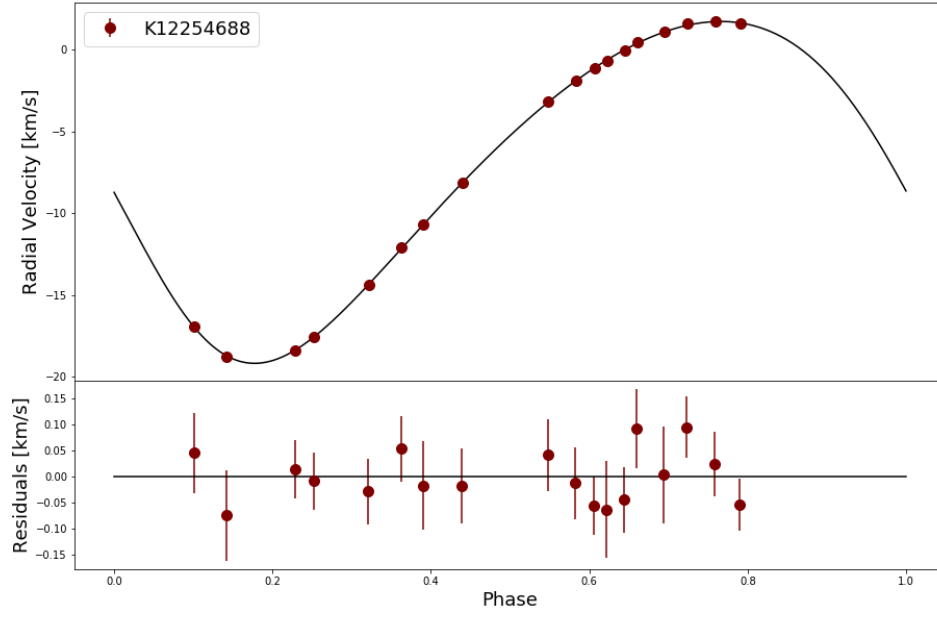


Figure 1: Phase folded median MCMC RV model and observations. RMS residual velocity of  $0.05 \text{ km s}^{-1}$ .

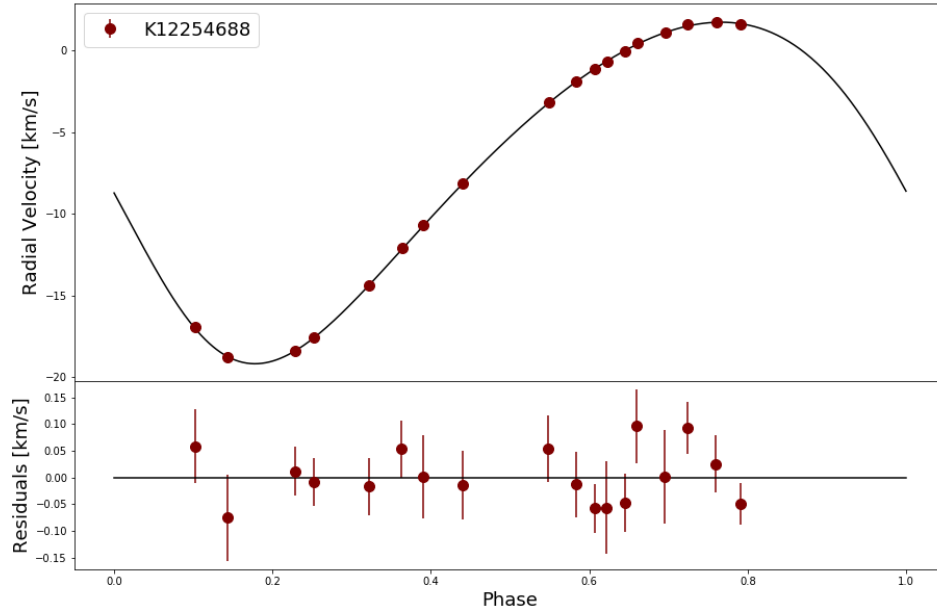


Figure 2: Phase folded maximum-likelihood MCMC RV model and observations. RMS residual velocity of  $0.05 \text{ km s}^{-1}$ .

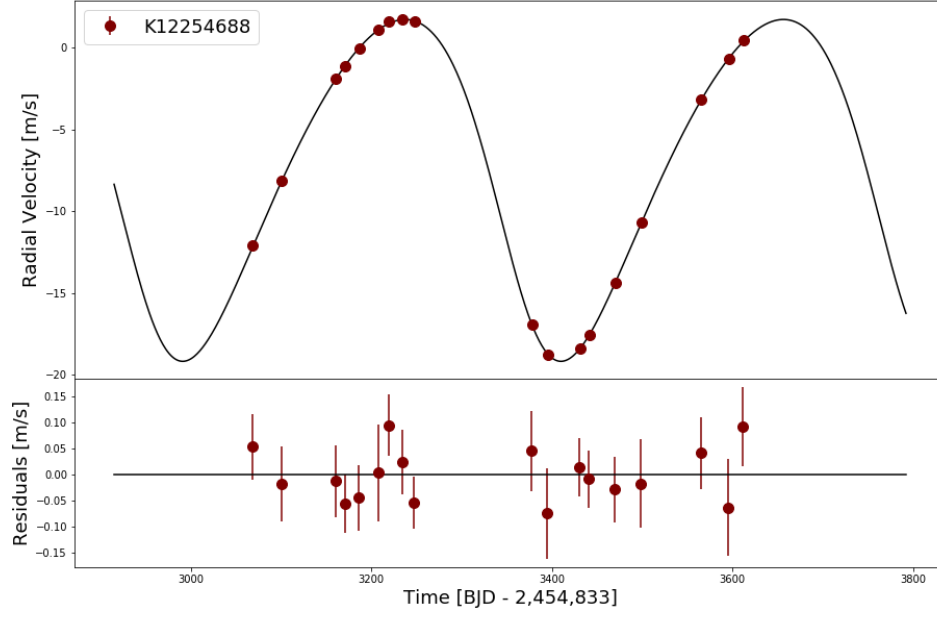


Figure 3: Time series median MCMC RV model and observations. RMS residual velocity of 0.05 km s<sup>-1</sup>.

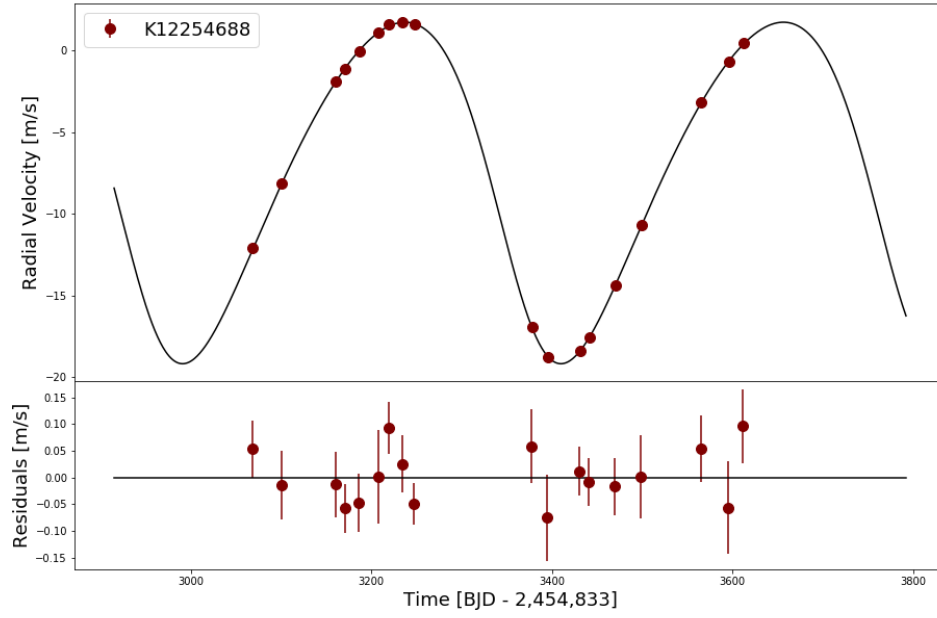


Figure 4: Time series maximum-likelihood MCMC RV model and observations. RMS residual velocity of 0.05 km s<sup>-1</sup>.

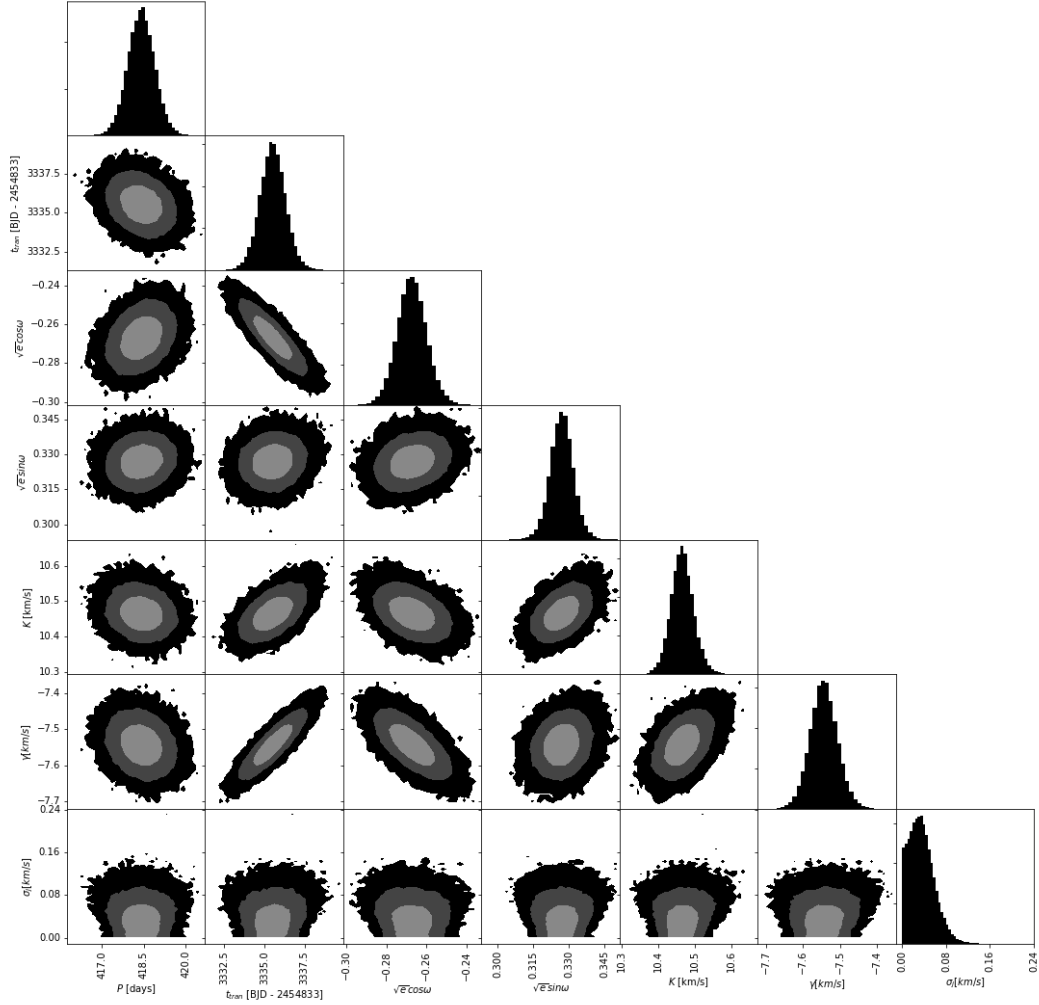


Figure 5: Contour plots showing the  $1\sigma$ ,  $2\sigma$ , and  $3\sigma$  constraints on pairs of parameters for the MCMC model.

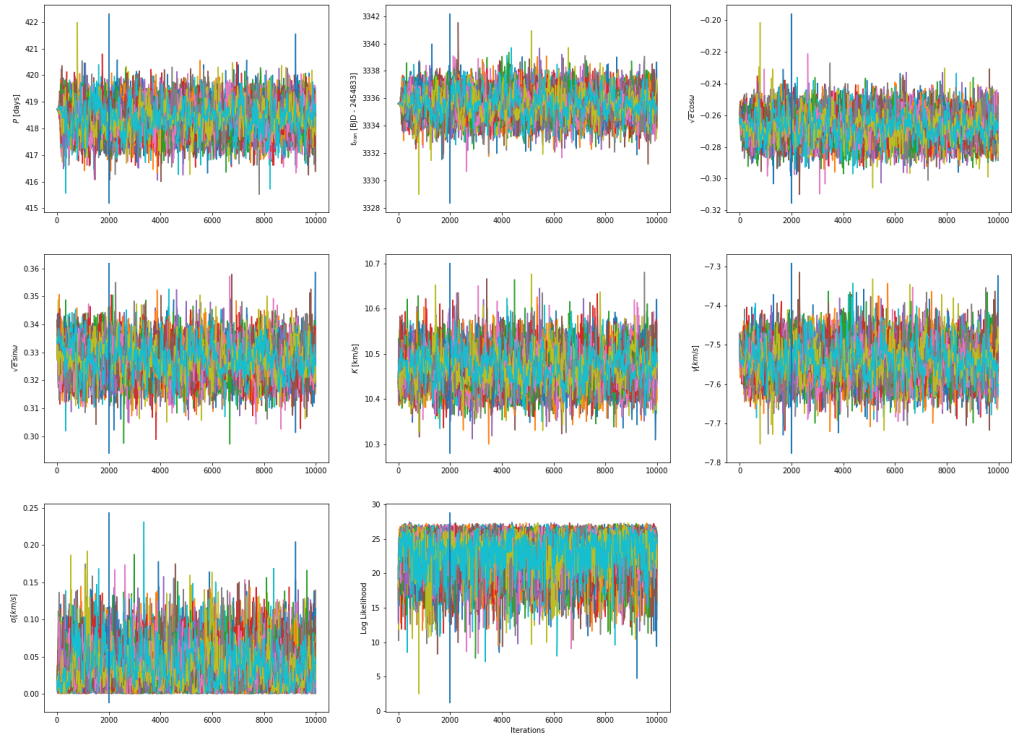


Figure 6: MCMC chains for all 50 walkers. Blue line is burnout: 2000 steps.