

Table 1: Median Reduced  $\chi^2$ : 1.02 – Maximum-Likelihood Reduced  $\chi^2$ : 1.25

Parameter	Median and $1\sigma$ Values	Maximum-Likelihood
$P$ (days)	$3679.9^{+4.7}_{-4.7}$	3683.4
$t_{tran}$ (days)	$48835^{+15}_{-15}$	48840.0
$ecos\omega$	$0.744^{+0.012}_{-0.013}$	0.741
$esin\omega$	$-0.214^{+0.033}_{-0.032}$	-0.215
$K_1$ (km/s)	$4.54^{+0.13}_{-0.13}$	4.56
$\gamma_1$ (km/s)	$41.391^{+0.092}_{-0.093}$	41.411
$\gamma_2$ (km/s)	$41.199^{+0.091}_{-0.089}$	41.268
$\gamma_3$ (km/s)	$40.7^{+1.0}_{-1.0}$	40.7
$\gamma_4$ (km/s)	$41.12^{+0.62}_{-0.63}$	41.17
$\sigma_j^2$ (km/s) $^2$	$0.085^{+0.176}_{-0.053}$	0.019
$M_{error,1}$	$0.97^{+0.34}_{-0.32}$	1.03
$M_{error,2}$	$2.4^{+3.9}_{-1.7}$	8.9
$M_{error,3}$	$5.0^{+3.4}_{-3.4}$	0.0
$M_{error,4}$	$5.0^{+3.5}_{-3.4}$	0.4
$e$	$0.775^{+0.013}_{-0.013}$	0.772
$\omega$ (deg)	$-16.0^{+2.4}_{-2.4}$	-16.1

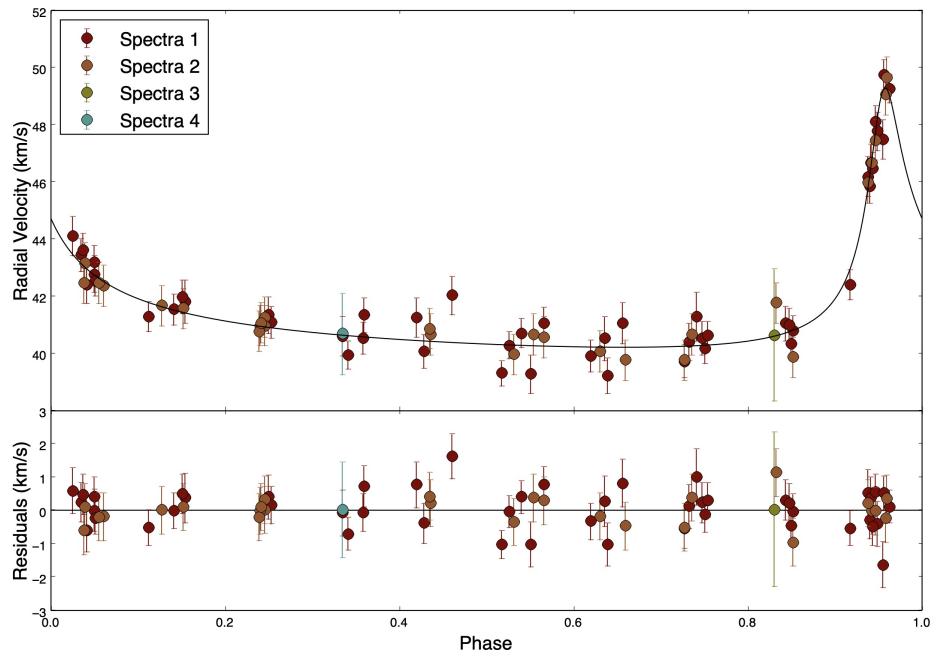


Figure 1: RV fit to median MCMC parameters. RMS residual velocity of  $0.53 \text{ km s}^{-1}$ .

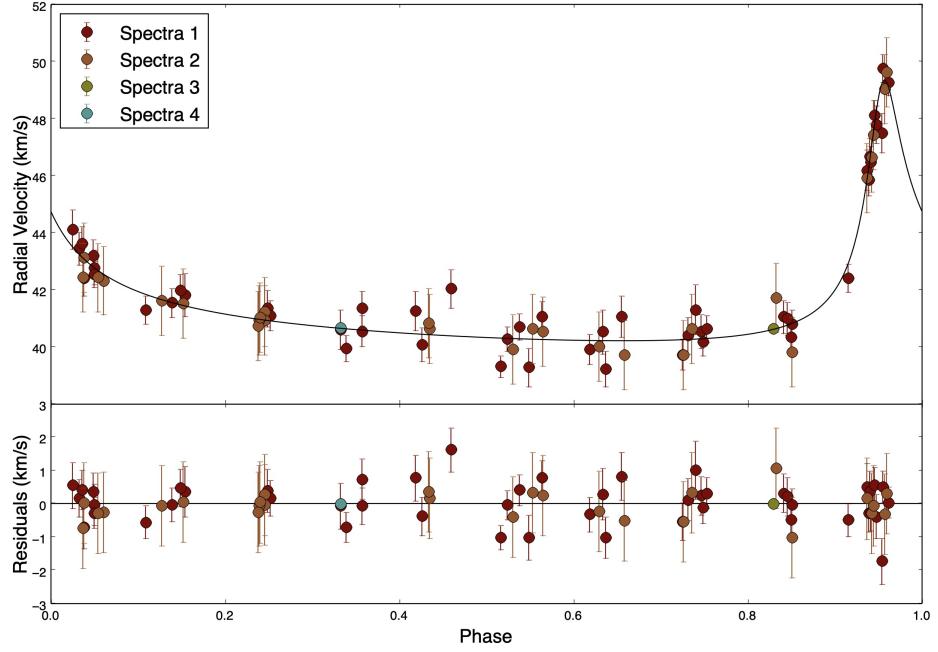


Figure 2: RV fit to maximum-likelihood MCMC parameters. RMS residual velocity of  $0.53 \text{ km s}^{-1}$ .

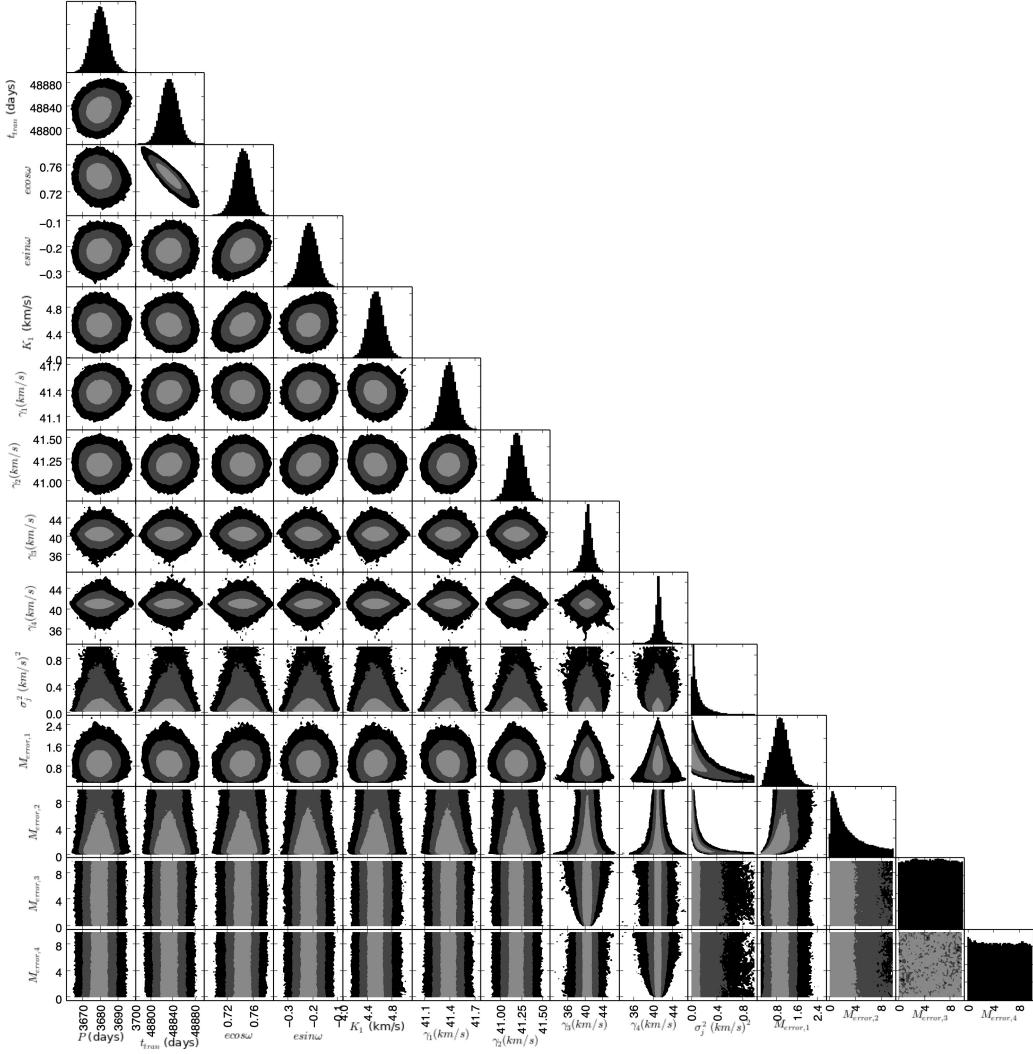


Figure 3: Contour plots showing the  $1\sigma$ ,  $2\sigma$ , and  $3\sigma$  constraints on pairs of parameters for the MCMC model.

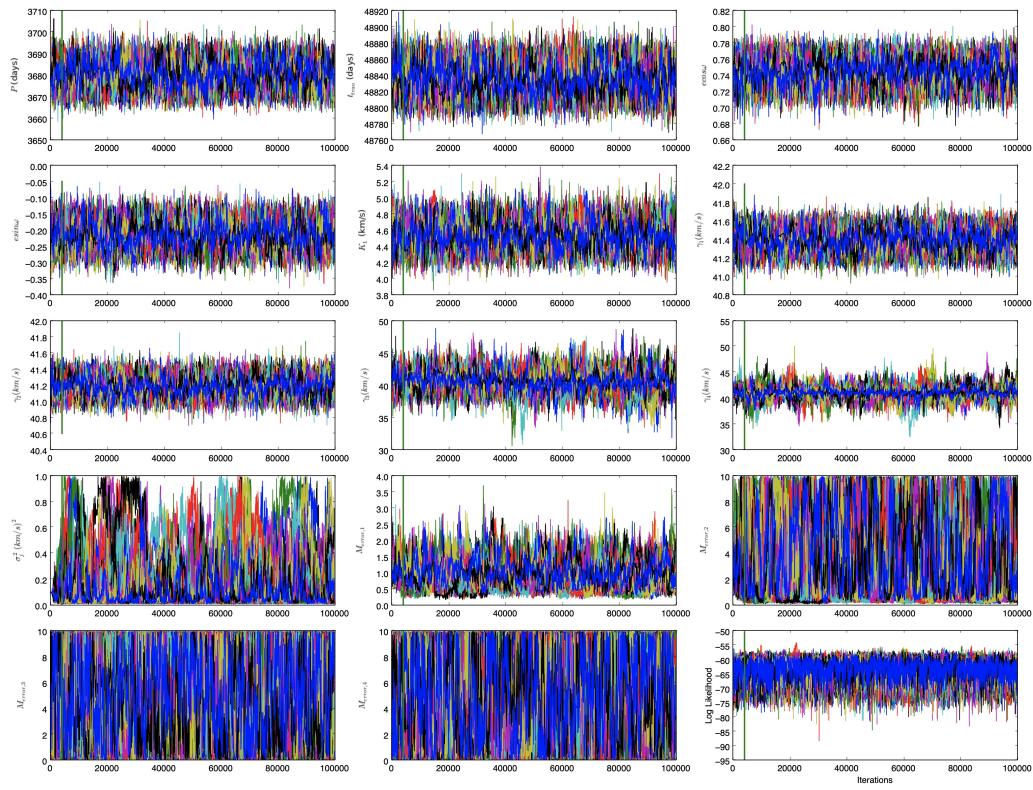


Figure 4: MCMC chains for all 50 walkers. Green line is burnout: 4000 steps.