

TABLE 1
 MODEL COMPARISON

AICc Qualitative Comparison	Free Parameters	N_{free}	N_{data}	RMS	$\ln \mathcal{L}$	BIC	AICc	ΔAICc
AICc Favored Model	e_b, K_b, σ, γ	7	45	4.91	-168.17	295.41	285.79	0.00
Strongly Disfavored	σ, γ	2	45	5.80	-177.19	293.13	289.80	4.01

 TABLE 2
 MCMC POSTERIORS

Parameter	Credible Interval	Maximum Likelihood	Units
Modified MCMC Step Parameters			
P_b	3542^{+460}_{-370}	3515	days
T_{conj_b}	2456775^{+900}_{-760}	2456887	JD
e_b	$0.37^{+0.35}_{-0.26}$	0.3	
ω_b	$-2.5^{+1.3}_{-1.9}$	-2.3	radians
K_b	$4.8^{+1.9}_{-1.8}$	5.4	m s^{-1}
Orbital Parameters			
P_b	3542^{+460}_{-370}	3515	days
T_{conj_b}	2456775^{+900}_{-760}	2456887	JD
e_b	$0.37^{+0.35}_{-0.26}$	0.3	
ω_b	$-2.5^{+1.3}_{-1.9}$	-2.3	radians
K_b	$4.8^{+1.9}_{-1.8}$	5.4	m s^{-1}
Other Parameters			
γ_{AAT}	$-0.34^{+0.99}_{-0.95}$	-0.93	
$\dot{\gamma}$	$\equiv 0.0$	$\equiv 0.0$	$\text{m s}^{-1} \text{d}^{-1}$
$\ddot{\gamma}$	$\equiv 0.0$	$\equiv 0.0$	$\text{m s}^{-1} \text{d}^{-2}$
σ_{AAT}	$4.84^{+0.81}_{-0.65}$	4.24	

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 Reference epoch for $\gamma, \dot{\gamma}, \ddot{\gamma}$: 2453941.5584850004

 TABLE 3
 DERIVED POSTERIORS

Parameter	Credible Interval	Maximum Likelihood	Units
$M_b \sin i$	$0.34^{+0.12}_{-0.14}$	0.34	M_{Jup}
a_b	$4.73^{+0.44}_{-0.37}$	4.93	AU

 TABLE 4
 SUMMARY OF PRIORS

e_b constrained to be < 0.99
 K constrained to be > 0
 Gaussian prior on K_b : 5.695 ± 5
 Gaussian prior on P_b : 3436 ± 3000
 Gaussian prior on T_{conj_b} : $2456213.7801020215 \pm 10000$
 Bounded prior: $0 < P_b < 20000$
 Bounded prior: $0.0 < \sigma_{\text{AAT}} < 10.0$

TABLE 5
FINAL CONVERGENCE
CRITERION

Criterion	Final Value
minAfactor	40.895
maxArchange	0.027
maxGR	1.005
minTz	6106.170

TABLE 6
RADIAL VELOCITIES

Time (JD)	RV (m s ⁻¹)	RV Unc. (m s ⁻¹)	Inst.
2450830.03446	-6.98	1.82	AAT
2451212.06221	-10.37	3.29	AAT
2451275.90168	6.66	2.14	AAT
2451526.11514	2.69	3.13	AAT
2451683.86380	11.94	1.96	AAT
2451828.20293	11.79	2.25	AAT
2451919.12118	-12.96	2.76	AAT
2451983.96028	0.31	2.96	AAT
2452009.00273	1.48	2.59	AAT
2452060.83501	2.17	1.96	AAT
2452127.34215	-1.34	4.61	AAT
2452128.34396	4.67	2.07	AAT
2452130.34490	-2.07	2.66	AAT
2452187.22728	5.31	2.23	AAT
2452188.24437	7.34	2.00	AAT
2452592.16098	6.42	1.61	AAT
2452655.08727	2.81	2.28	AAT
2452746.87775	0.01	2.07	AAT
2452945.24855	2.36	2.33	AAT
2453005.15043	1.42	1.78	AAT
2453043.05943	1.06	2.06	AAT
2453048.12807	-1.12	1.99	AAT
2453403.01527	-2.43	1.99	AAT
2453484.87764	1.64	1.70	AAT
2453508.86028	-1.66	1.80	AAT
2453839.88351	-1.13	1.13	AAT
2454039.20456	-9.49	1.59	AAT
2454222.88244	-6.95	0.88	AAT
2454547.92082	-4.19	1.65	AAT
2454900.02162	-0.38	1.19	AAT
2455171.17446	-3.23	1.28	AAT
2455208.07185	-3.35	1.48	AAT
2455254.01274	7.61	1.42	AAT
2455316.86491	3.79	1.27	AAT
2455524.17685	2.82	1.34	AAT
2455663.92490	14.73	1.95	AAT
2455668.85594	3.50	1.40	AAT
2455691.89792	2.77	1.47	AAT
2455878.23234	-4.83	1.82	AAT
2455964.01658	7.04	1.59	AAT
2456378.93863	-0.88	1.35	AAT
2456712.99475	3.28	1.69	AAT
2456766.91057	-4.42	1.59	AAT
2456940.27962	-7.62	2.33	AAT
2457053.08251	-5.13	1.84	AAT

NOTE. — Only the first 50 of 45 RVs are displayed in this table. Use `radvel table -t rv` to save the full \LaTeX table as a separate file.

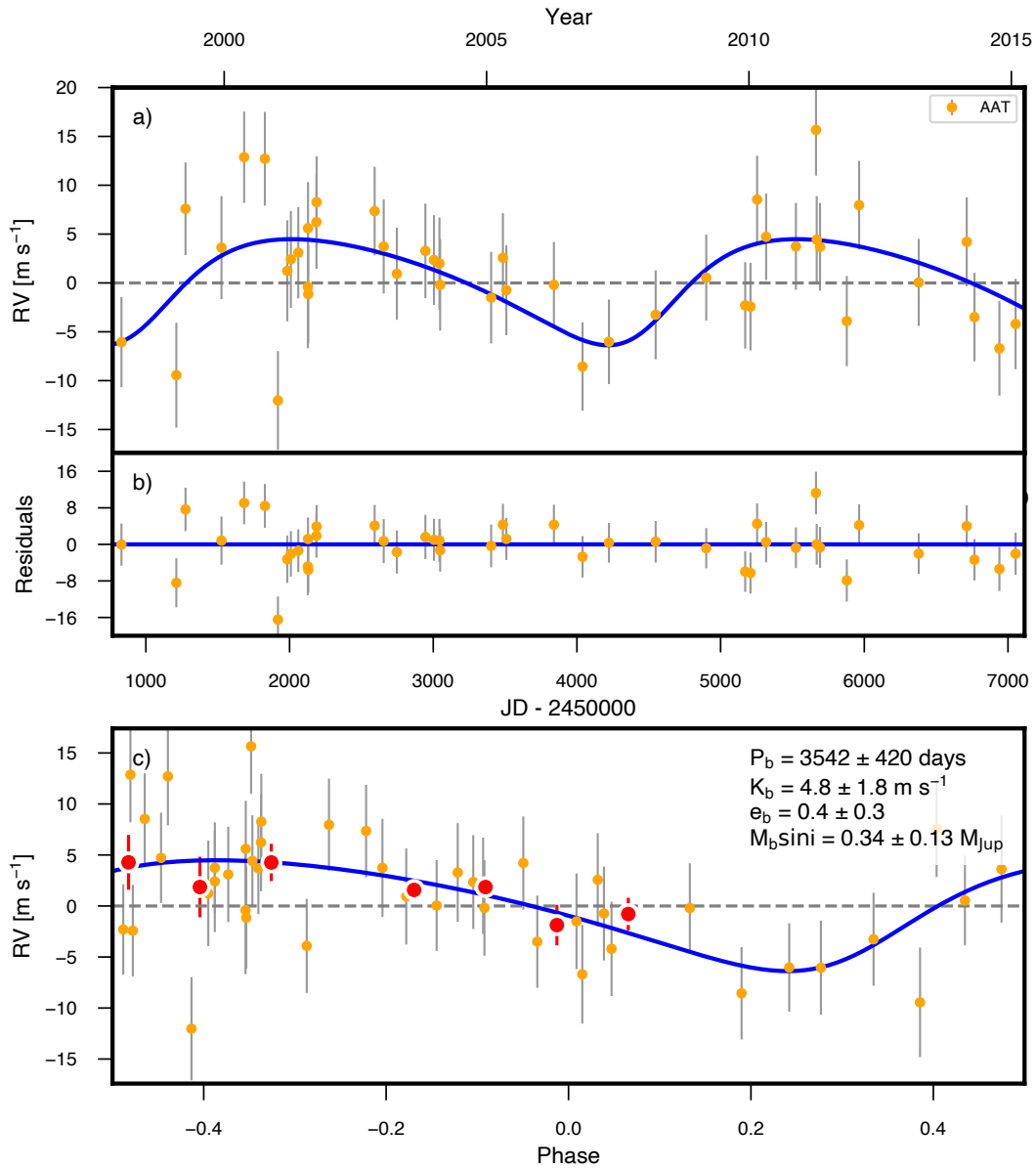


FIG. 1.— Best-fit 1-planet Keplerian orbital model for HD10000. The maximum likelihood model is plotted while the orbital parameters listed in Table 2 are the median values of the posterior distributions. The thin blue line is the best fit 1-planet model. We add in quadrature the RV jitter term(s) listed in Table 2 with the measurement uncertainties for all RVs. **b)** Residuals to the best fit 1-planet model. **c)** RVs phase-folded to the ephemeris of planet b. The Keplerian orbital models for all other planets (if any) have been subtracted. The small point colors and symbols are the same as in panel **a**. Red circles (if present) are the same velocities binned in 0.08 units of orbital phase. The phase-folded model for planet b is shown as the blue line.

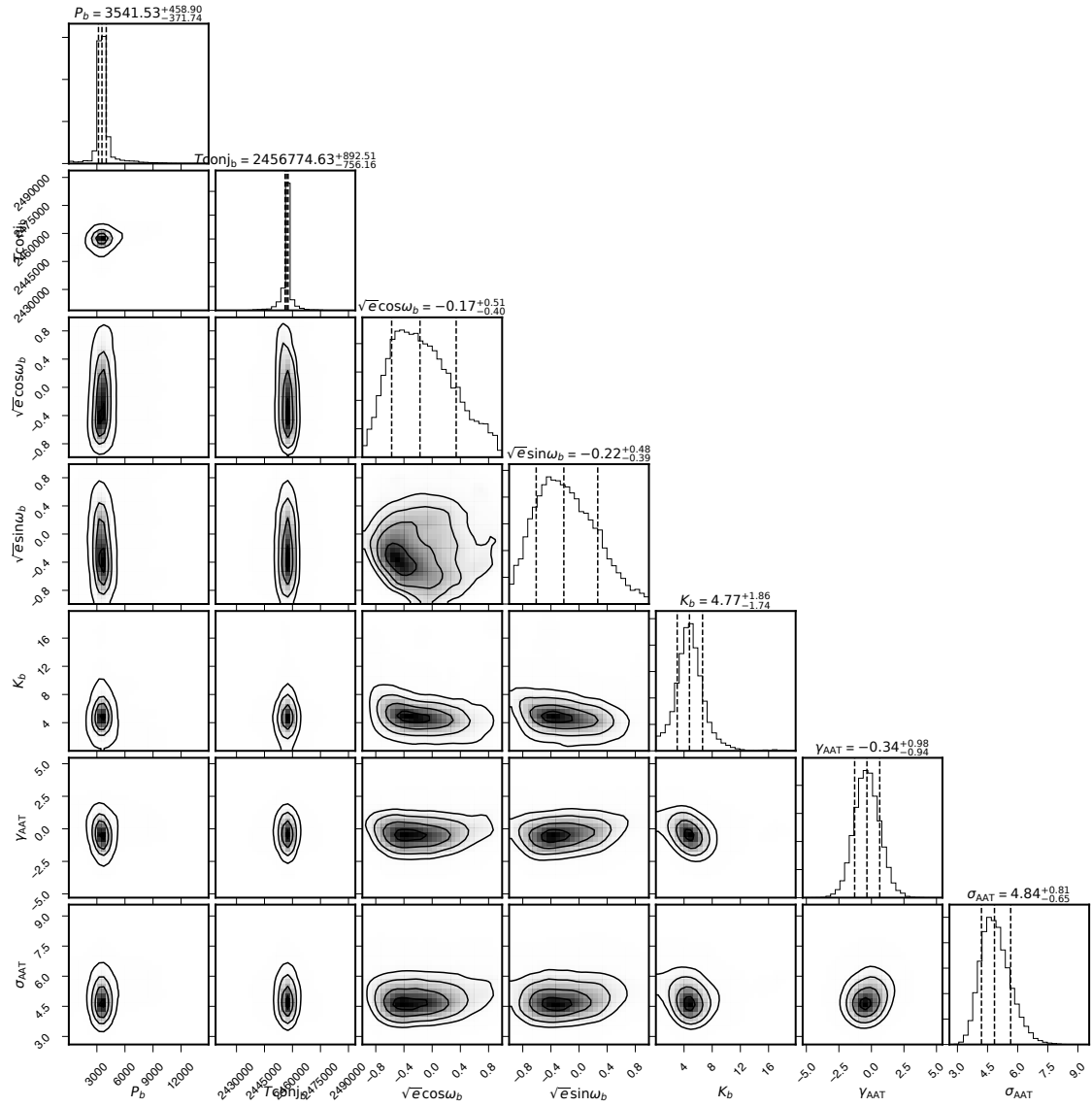


FIG. 2.— Posterior distributions for all free parameters.

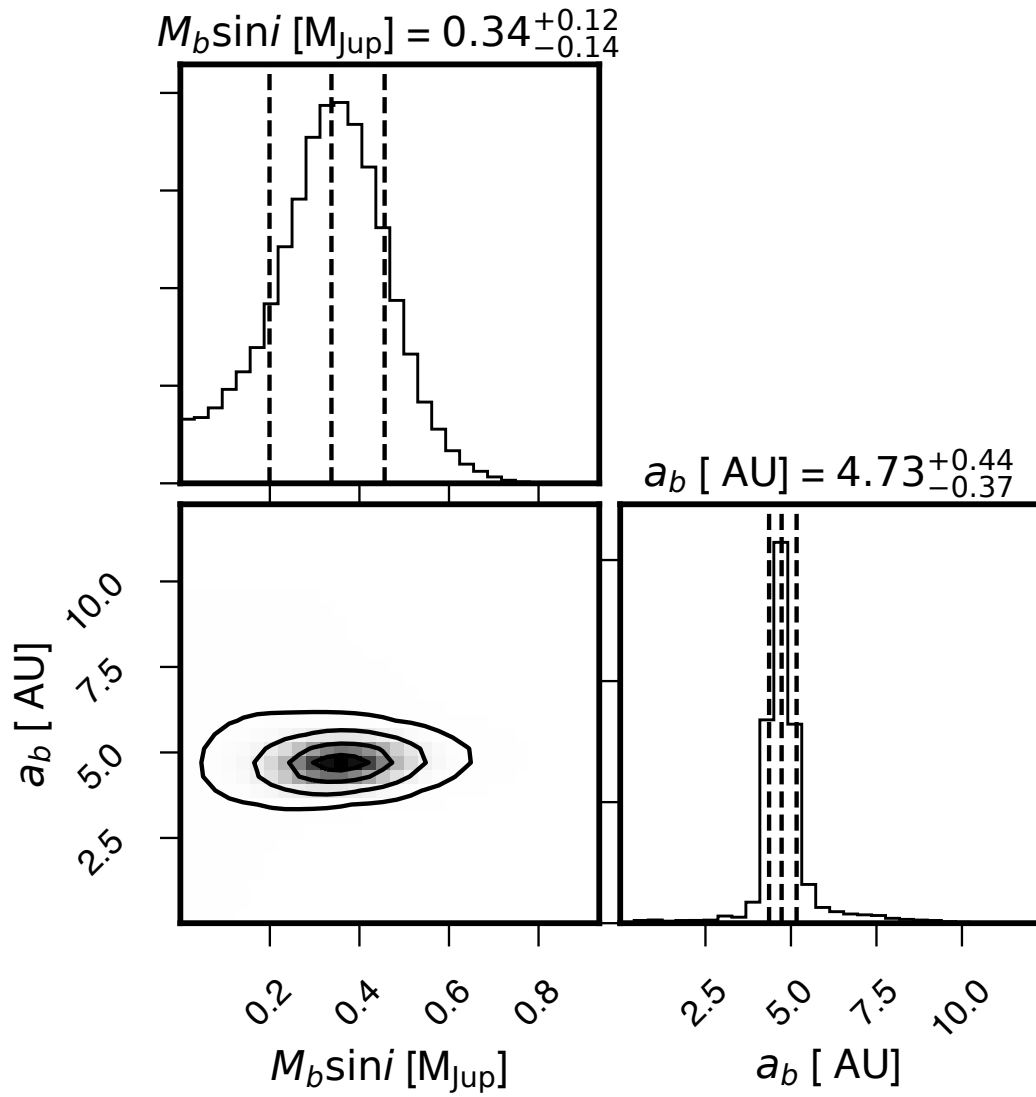


FIG. 3.— Posterior distributions for all derived parameters.