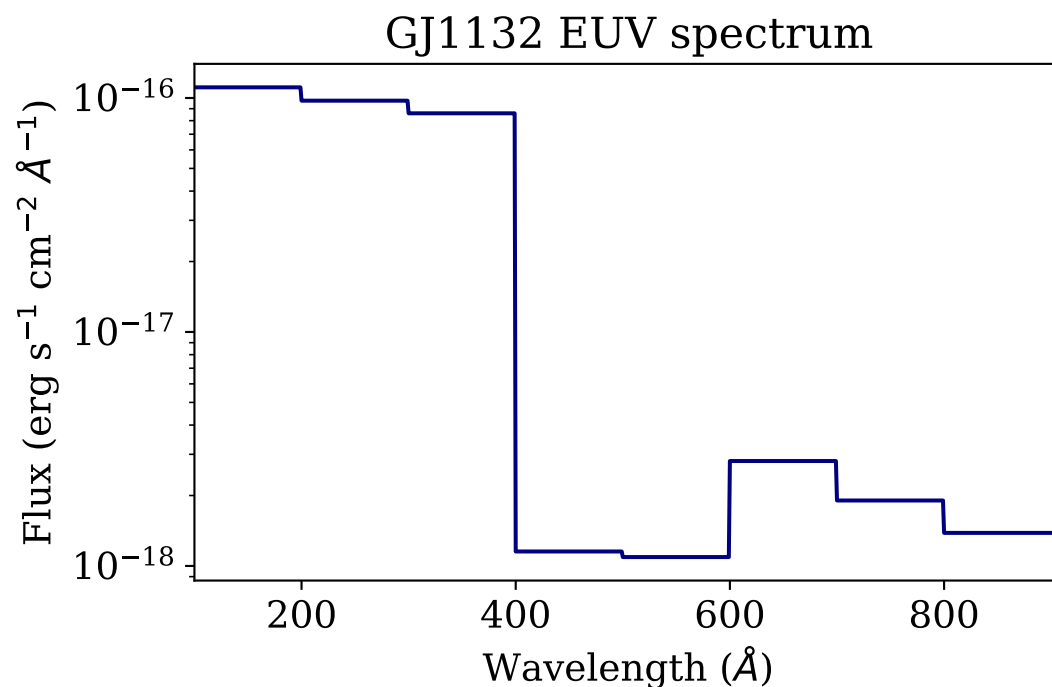


The intrinsic and damped Ly- $\alpha$  profiles for GJ1132. These plotted spectra are saved in the requested table, where the intrinsic profile is converted to the flux at 1AU (shown here it is at 12.04 pc). Total integrated Lyman-alpha flux is  $3.43 \times 10^{-14} \text{ erg/cm}^2/\text{s}$ .



EUV spectrum based on the Linksy relations. **The EUV luminosity (100-912 Angstrom) was calculated to be  $4.957 \times 10^{26} \text{ erg/s}$ .**

**Table 2.** Model parameters. Maximum a posteriori and 68.3% confidence intervals. Planets *b* and *c* are considered robust detections, whereas planet (*d*) is considered a planet candidate, and possibly the result of stellar activity.

Parameter	Maximum a-posteriori values with 16 <sup>th</sup> and 84 <sup>th</sup> percentiles		
<i>Stellar Parameters</i>			
Stellar mass, $M_s$ [ $M_\odot$ ]	0.181 $\pm$ 0.019		
Stellar radius, $R_s$ [ $R_\odot$ ]	0.2105 <sup>+0.0102</sup> <sub>-0.0085</sub>		
Stellar Luminosity, $L_s$ [ $L_\odot$ ]	0.00438 $\pm$ 0.00034		
Effective Temperature, $T_{\text{eff}}$ [K]	3270 $\pm$ 140		
Rotation Period, $P_{\text{rot}}$ [days]	122.3 <sup>+6.0</sup> <sub>-5.0</sub>		
Systemic velocity, $\gamma_0$ [m s <sup>-1</sup> ]	35078.8 $\pm$ 0.8		
<i>Gaussian Process Hyperparameters</i>			
ln Correlation amplitude, ln $a$ [m s <sup>-1</sup> ]	-0.18 <sup>+1.12</sup> <sub>-1.32</sub>		
ln Exponential timescale, ln $\lambda$ [days]	7.01 <sup>+1.37</sup> <sub>-1.31</sub>		
ln Coherence parameter, ln $\Gamma$	1.8 <sup>+2.4</sup> <sub>-5.4</sub>		
ln Periodic timescale, ln $P_{\text{GP}}$ [days]	4.81 <sup>+1.79</sup> <sub>-1.61</sub>		
Additive jitter, $s$ [m s <sup>-1</sup> ]	0.19 <sup>+0.63</sup> <sub>-0.04</sub>		
<i>Derived Parameters</i>	<i>GJ 1132b</i>	<i>GJ 1132c</i>	<i>GJ 1132(d)</i>
Period, $P$ [days]	1.628931 $\pm$ 0.000027	8.929 $\pm$ 0.010	176.9 $\pm$ 5.1
Time of inferior conjunction, $T_0$ [BJD-2,450,000]	7184.55786 $\pm$ 0.00031	7506.02 $\pm$ 0.34	7496.8 <sup>+14.4</sup> <sub>-8.6</sub>
Radial velocity semi-amplitude, $K$ [m s <sup>-1</sup> ]	2.85 $\pm$ 0.34	2.57 $\pm$ 0.39	3.03 <sup>+0.58</sup> <sub>-0.88</sub>
$h = \sqrt{e} \cos \omega$	0.05 $\pm$ 0.13	-0.12 <sup>+0.28</sup> <sub>-0.25</sub>	-0.10 <sup>+0.27</sup> <sub>-0.28</sub>
$k = \sqrt{e} \sin \omega$	-0.12 $\pm$ 0.25	0.14 $\pm$ 0.24	-0.05 $\pm$ 0.29
<i>Calculated Parameters</i>			
Semimajor axis, $a$ [AU]	0.0153 $\pm$ 0.0005	0.0476 $\pm$ 0.0017	0.35 $\pm$ 0.01
Eccentricity, $e^*$	< 0.22	< 0.27	< 0.53
Planet mass, $M_p$ [ $M_\oplus$ ]	1.66 $\pm$ 0.23	-	-
Minimum planet mass, $M_p \sin i$ [ $M_\oplus$ ]	1.66 $\pm$ 0.23	2.64 $\pm$ 0.44	8.4 <sup>+1.7</sup> <sub>-2.5</sub>
Planet density, $\rho_p$ [g cm <sup>-3</sup> ] <sup>(*)</sup>	6.3 $\pm$ 1.3	-	-
Surface gravity, $g$ [m s <sup>-2</sup> ] <sup>(*)</sup>	12.9 $\pm$ 2.2	-	-
Escape velocity, $v_{\text{esc}}$ [km s <sup>-1</sup> ] <sup>(*)</sup>	13.6 $\pm$ 1.0	-	-
Equilibrium temperature, $T_{\text{eq}}$ [K]	-	-	-
Bond albedo of 0.3 (Earth-like)	529 $\pm$ 9	300 $\pm$ 5	111 $\pm$ 2
Bond albedo of 0.75 (Venus-like)	409 $\pm$ 7	232 $\pm$ 4	86 $\pm$ 1

**Notes.** (•) assuming a planetary radius of  $1.13 \pm 0.056 R_\oplus$  (Berta-Thompson et al. 2015). (\*) upper limit, 95<sup>th</sup> percentile of the posterior PDF.  $M_\odot = 1.98842 \times 10^{30}$  kg,  $R_\odot = 6.95508 \times 10^8$  m,  $M_\oplus = 5.9736 \times 10^{24}$  kg,  $R_\oplus = 6,378,137$  m.

You can assume that planet and star parameters from the most recent publication on this system are consistent with most values I use at all stages of this project, with the exception of **planet and star radii, for which I adopt the values from Dittmann et al, 2017:**

from our high-cadence *Spitzer* light curve (assuming zero eccentricity), we measure the stellar radius of GJ 1132 to be  $0.2105^{+0.0102}_{-0.0085} R_\odot$ , and we refine the radius measurement of GJ 1132b to  $1.130 \pm 0.056 R_\oplus$ . Combined with HARPS RV mea-

These values give us a surface gravity of  $12.75 \text{ m/s}^2$  for GJ1132b.

**In case it is usefuls, our modeling of the STIS light curves give us a 2-  $\sigma$  upper limit  $R_p/R^*$  of 0.36.**