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ERRATUM: "SIMULATED PHOTOEVAPORATIVE MASS LOSS FROM HOT JUPITERS IN 3D" (2015, ApJ, 808, 173)

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The last term in Equation (7) incorrectly uses $r_\star$, instead of $r_{\star\perp}$, to calculate the contribution of the centrifugal force on the gravitational potential. We define $r_{\star\perp} = \sqrt{(x+a)^2 + y^2}$ and $r_\star = \sqrt{(x+a)^2 + y^2 + z^2}$, where x, y, and z are local positions relative to the planet, centered at the origin, and the star, centered at $x = -$a, $y = z = 0$. We thank Phil Arras for pointing this out to us. Our publicly available code has since been corrected for this mistake, and we have rerun our fiducial simulation.

Due to decreased outflow in the $\pm\hat{z}$ directions, this results in a 5% decrease in mass loss rates: 1.8×10^{11} g s^{-1}, as compared to 1.9×10^{11} g s^{-1}, for our fiducial simulation. The structure in the $x - y$ direction is unchanged from our previous results. The gas along the $\pm\hat{z}$ direction no longer goes supersonic or escapes, as shown in Figure 1. The density, neutral fraction, and temperature structure are largely unchanged, with the only difference being that gas at the edges of the box in $\hat{z}$ remains at its ambient density and temperature. One-dimensional comparisons remain the same, as these are calculated at $y = z = 0$. Our Lyα obscuration channel maps, Figure 2, also show less outflow in $\hat{z}$ than $\hat{y}$. While the obscuration shows slight asymmetries about line center, the average obscuration line profile—integrated over the stellar disk—is symmetric and indistinguishable from our original results.

We also note a typo in Equation (3) in the original text; the gravitational source term was not included. The right hand side of the equation should include the additional term $-\rho\boldsymbol{v} \cdot \nabla\Phi$. This is only a typographical error; this term is correctly included in our code implementation.

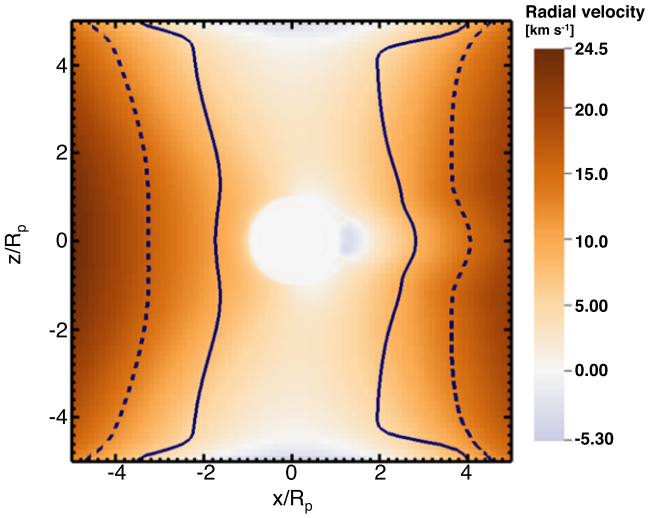

Figure 1. Steady-state outflow radial velocity [km s^{-1}], shown with the adiabatic sonic surface (solid) and the escape surface (dashed) in the $x - z$ midplane. (This replaces Figure 3 in the published paper.)

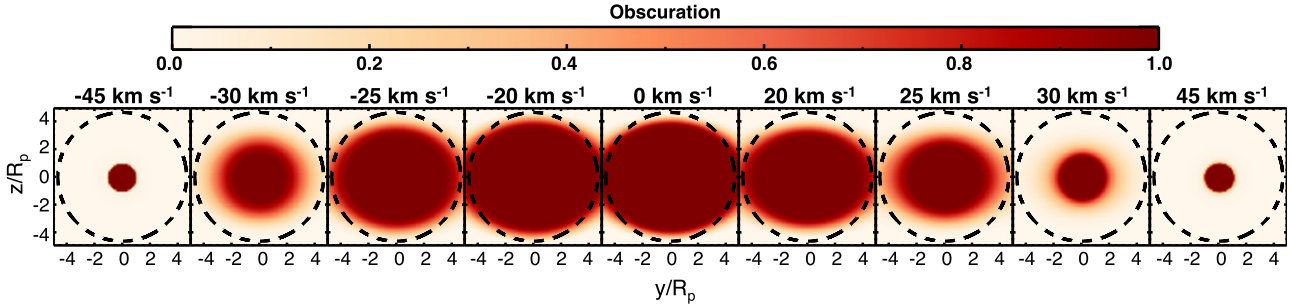

Figure 2. Channel maps of the $y - z$ spatial distribution of Lyα obscuration at line center and then off-center by the specified velocities, for steady-state outflow at 1.39×10^6 s. The dashed circle shows the spatial extent of the stellar disk. (This replaces Figure 10 in the published paper.)