

Abstract Submitted  
for the TSS21 Meeting of  
The American Physical Society

**The Precise Orbital Period of HAT-P-36 b<sup>1</sup>** REBECA SOTO ARMENDARIZ, KENNETH CARRELL, Angelo State University — Follow-up observations of confirmed exoplanets are essential to obtain more accurate measurements of a planets period and transit midpoint. We observed the confirmed exoplanet HAT-P-36 b, first discovered by the Hungarian Automated Telescope Network (HATNet) Exoplanet Survey (Bakos et al. 2012). This planet can also be found in the Transiting Exoplanet Survey Satellite (TESS) database as TOI 1810.01. After processing the images obtained from our observing runs, we plotted their light curves to compare them with the data from HATNet, and the two-minute cadence and Full Frame Images (FFI) from TESS. Our resulting light curves match very closely the light curves we used as references. The data from HATNet was taken about ten years ago, the data from TESS was taken about one year ago, and our observations were made in March 2021. This means that the period and the transit midpoint of HAT-P-36 b have remained constant for over a decade. This type of science is helpful for planning spectroscopic follow-up observations and can be done by amateur astronomers using smaller aperture telescopes. This will save valuable time at bigger telescopes and will allow professional astronomers to more efficiently use their time.

<sup>1</sup>Funding was provided by the Undergraduate Faculty-Mentored Grants at Angelo State University

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Date submitted: 15 Mar 2021

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