



# Ensemble Photometry of Exoplanets at the BSU Observatory: Improving Previous Measurements and Streamlining New Ones

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## Abstract

When an exoplanet transits in front of a star, the subtle light curve dip can be difficult to identify if the data are noisy. The main goal of my research is to improve measurement results. The main method used is ensemble photometry, but initial improvements were also made to decrease error. Analysis of *Tres-1b* and *Wasp-43b* data showed that ensemble photometry had 10% less average measurement error and a smaller residual than differential photometry if high signal to noise stars were used, though the results of ensemble photometry are heavily dependent on which comparison stars are chosen. I have also created a procedure manual on ensemble photometry for other student researchers at BSU to follow.

## Data

## Analysis

## Future Work

## Acknowledgments

## References