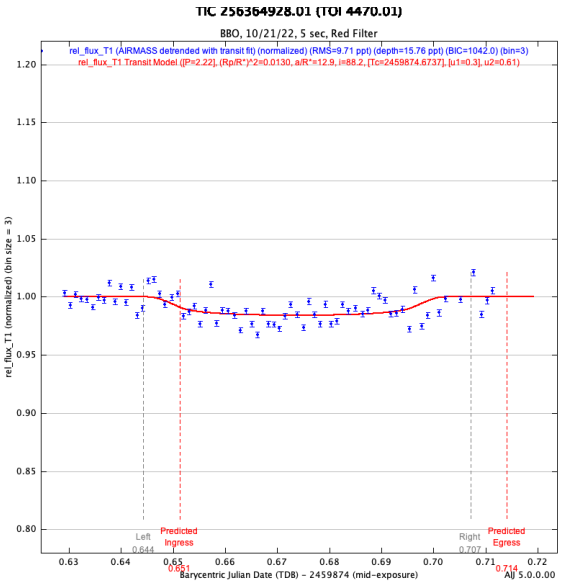
BioPharmaceutical Technology Center
I N S T I T U T E

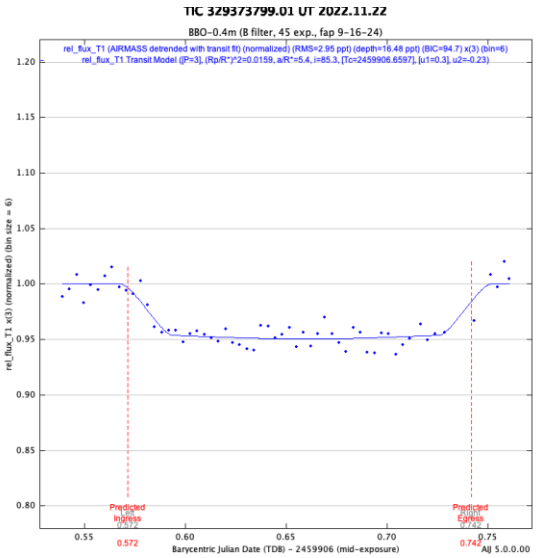
December 2022: Bell Burnell Observatory Research Updates



Our UW-Madison student team has been busy at BBO this fall observing exoplanet transits.

In October, we watched a known exoplanet transiting a relatively bright star. This gave us a chance to learn how to produce light curves from the raw data and confirmed that we could detect the small dip in brightness that occurs during the transit using the telescope and camera at BBO. We found that the transit occurred about 10 minutes earlier than expected, which indicated that the period for this exoplanet to orbit its star may be slightly shorter than the published period.

In November, we searched a website that lists predicted transits for recently discovered exoplanet candidates that were found using the TESS space satellite. We selected a candidate where ground observations were requested to help confirm that the signal was from an exoplanet transit. We collected data for about 4 hours on the night of the predicted transit. The dip in brightness occurred right at the predicted time and close to the predicted depth, which was 15 parts per thousand or 0.15%. We reported our results to the group of scientists who requested the observation…. our first successful confirmation!



Students shared this good news at a presentation.