

First exoplanet observation at ERAU Observatory

On the night of February 11th, 2008, we made our first observation of an extrasolar planet (“exoplanet”) passing in front of its host star. This exoplanet is orbiting a star nearly 500 light-years away and was discovered in early 2007 by a group of astronomers using an automated telescope on Haleakala in Maui. As the Jupiter-sized planet passes in front of the star every 2.616 days, it blocks about 1.4% of the light from the star. This subtle dimming was detected with very careful observations with a sensitive CCD (“Charge-Coupled Device”) camera and the 12” telescope at ERAU Observatory. The solid line in the plot below is a best-fit model of the transit using our plotted data points. Our results closely match published measurements for this system. The timescale on the x-axis is Universal Time, which runs 7 hours ahead of Mountain Standard Time. Thus, our observations ran from 8:20pm to midnight MST. Each large tickmark on the y-axis corresponds to a 1% change in brightness.

These observations were carried out by Dr. Brian Rachford, Dr. Brent Buckalew, and Space Physics students Dillon Foight, Andrew Eckman, and Candice Brown.

