nights of high humidity (see Figure 2), which successfully reduces noise in the light curve. In the case of bright transiting exoplanet detection, atmospheric conditions that can otherwise be crippling to astronomical research can benefit transit observations.

Light pollution at UMO significantly increases the background sky intensity, effectively making the signal-to-noise ratio poorer for dim stars. The number of control stars available in a given field is therefore reduced due to the location of UMO. There are still many viable control stars in star fields as dense as the region surrounding HD 189733. The number of stars does not significantly change the light curve in a differential photometric observation of >20 stars. This suggests that more sparse star fields will still produce quality light curves of bright transiting exoplanets at small observatories.

The success of the defocusing technique can be attributed to several factors. The increased exposure length compensates for the decreased intensity of the brightest pixels in each frame. The longer exposure length may be integrating over a time cycle longer than the atmospheric fluctuations that are a source of noise in the shorter exposures. Defocusing also provides a natural form of dithering. The star light is spread out over more pixels, lessening the significance of pixel-to-pixel variations that may have eluded correction in the dark frame and flat field processing.

The imperfect polar alignment of the telescope may be a source of uncorrected systematic error. The target star drifted ~275 pixels in the 2011 Jun 30 observation, which significantly spreads the observation over many pixels. The flat fielding normalization and dark frame subtraction are assumed to remove any systematic effects along the length of the detector and some corrected images were visually inspected to ensure the calibration process successfully removed obvious systematic effects.

It has now been shown that small college observatories like UMO can produce quality light curves of transiting exoplanets. It should be noted that these observations were recorded using standard college observatory apparatus, and can likely be repeated in other small observatories. The quality of these observations is likely to increase as the observing techniques are refined and preliminary observations of dimmer transiting exoplanets suggest that stars dimmer than HD 189733 by several magnitudes can be observed at UMO. Online transit predictions by services like those of Poddany et al. (2010) provide up-to-date ephemerides on observable transiting exoplanets [4]. These accurate predictions minimize observing time for follow-up observations by allowing observers to plan observing sessions to the minute. Poddany et al. (2010) also provide a streamlined, centralized system for updating these ephemerides with new user collected data. The author plans to monitor candidate transiting exoplanets for follow-up observations to constrain ephemerides, and to contribute to these databases with the results that are collected.

**Conclusions**

Small observatories such as the University of Maryland Observatory are capable of recording light curves of bright transiting exoplanets such as HD 189733b with common apparatus. Rather simple differential photometry algorithms can define