

## Small Telescope Exoplanet Observations in Taurus Hill Observatory

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### Abstract

Taurus Hill Observatory (THO) [1], observatory code A95, is an amateur observatory located in Varkaus, Finland. The observatory is maintained by the local astronomical association Warkauden Kassiopeia. THO began the exoplanet light curve measurements in April 2006 by observing the light curve of the exoplanet TrES-1 (see Figure 1) [2]. This first TrES-1 measurement is interesting due the small hump in the second half of the light curve. The first estimates about the reason for this hump were that it could be a result of a starspot (Prof. Gregory Laughlin, UC Santa Gruz) [3]. Since April 2006 the THO research team has totally measured and observed 19 exoplanets.

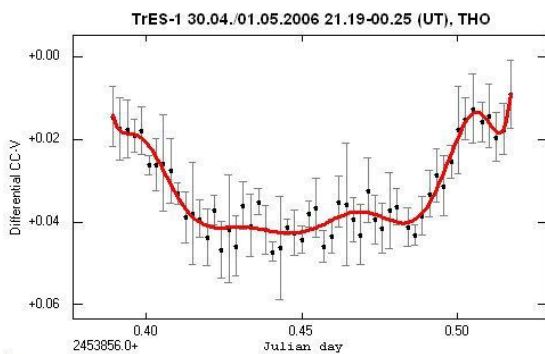


Figure 1: The light curve of the TrES-1

Exoplanet measurements made in THO have produced a lot of interesting scientific results. One good example is the measurements that were made from the exoplanet WASP-12b 04.04.2009 (see Figure 2) [4]. The THO measurements revealed that the second set of measurements printed in the discovery paper of the WASP-12b indicated inaccurate transit time for the planet. As a result of the THO measurements, the transit time was defined more precisely.

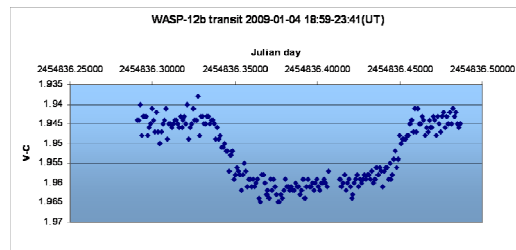


Figure 2: The light curve of the WASP-12b

THO research team has managed to measure very difficult objects. One of these is CoroTExo-1b that transits the star that has only magnitude of 13.7. Due the low brightness of the mother star, the CoroTExo-1b (see Figure 3) measurement made at THO 06.11.2007 is one of the challenging ones for the amateur observatories and equipment [5].

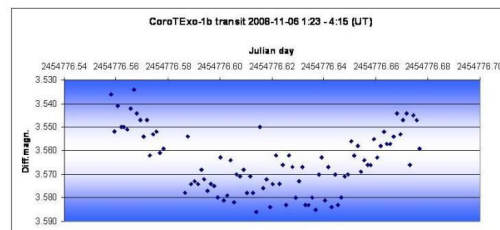


Figure 3: The light curve of the CoroTExo-1b

### References

- [1] <http://english.taurushil.net>
- [2] <http://english.taurushill.net/extrasolar-planets/exoplanet-tres-1-transit.html>
- [3] <http://oklo.org/?p=76>
- [4] <http://english.taurushill.net/extrasolar-planets/wasp-12b-light-curve-measured-at-taurus-hill-observatory.html>
- [5] <http://english.taurushill.net/extrasolar-planets/corotexo-1b-exoplanet-observed-at-taurus-hill-observatory.html>