

Transit Observations in Taurus Hill Observatory

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Abstract

Taurus Hill Observatory (THO), observatory code A95, is an amateur observatory located in Varkaus, Finland. The observatory is maintained by the local astronomical association Warkauden Kassiopeia.

THO research team has observed and measured various stellar objects and phenomena. Observatory has mainly focused to asteroid [1] and exoplanet light curve measurements, observing the gamma rays burst, supernova discoveries and monitoring [2] and long term monitoring projects [3]. THO research team has presented its research work on previous EPSC meetings [4], [5] and [6] and got very supportive reactions from the European planetary science community.

1. Transit Observations of Exoplanets

Exoplanets have been one of the specialties of the THO research team. The team has been made now some years transit and light curve measurements about the exoplanets. To this date the team has measured over 30 different exoplanet light curves and some of them many times. The first THO measurements have been added to AXA-database that is maintained by *Bruce L. Gary* and now observatory is also using EDT (Exoplanet Transit Database) that is maintained by Variable Star and Exoplanet of Czech Astronomical Society.

THO site is optimal place in Finland to observe and measure transits and light curves during the winter due the lack of the light pollution. This gives the observatory possibility to take long measurement periods during these dark winter months.

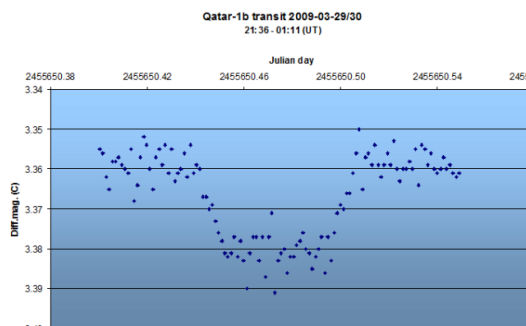


Figure 1: THO transit light curve measurement from the exoplanet Qatar-1b (29./30.3.2011).

2. Transit Observations of Solar System Objects

Besides the exoplanet transit light curve observations and measurements, the THO research team has observed also solar system object transits. First transit observations were made in 2004 when Venus transited the Sun. THO research team participated to two conferences on that year. First time on May 2004 in Czech Republic and second time on December 2004 in Paris. These two conferences were organized by the European Southern Observatory (ESO) and they were related to the “Venus Transit 2004” -project.

The “Venus Transit 2004” -project was the kick-off for the THO research work in European science community. On June 8th 2004 when the Venus transited the Sun, the THO research team had a good fortune because the weather was very nice during the transit despite the bad forecasts. THO research team managed to observe whole transit and took over 12000 individual pictures from the transit.

THO research team published its own summary document [7] about the results of the Venus transit 2004 campaign and sent these results also to ESO for further evaluation.



Figure 2: One of the 12000 pictures taken by THO research team during the Venus transit 2004.

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