

## Construction of Observation System of Extrasolar Planets by Transit Method

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Since 1995, the Extrasolar Planets were discovered for the first time, more than 200 planets has been discovered before now. The main currents of the method of observing the extrasolar planets are Doppler method (Radial velocity) and Transit method. The doppler method is a method of detecting staggering of the fixed star by the planet gravitation. On the other hand, the transit method is a method of detecting the phenomenon for the planet to pass over the front side of the fixed star. It is possible to observe with the small-aperture telescope in the transit method while the telescope of a big diameter is needed in the doppler method.

The system construction and verification of the extrasolar planets observation by the transit method was done in this work. The parameter of the planet was requested with the constructed system, and it was compared with the result of the previous report.

We observed in the Kihara astronomical observatory in Nayoro City, Hokkaido. We use a 25cm reflecting telescope, a 40cm Schmidt-Cassegrain telescope and a CCD detector, SBIG STL1001E. In the observation, the grade of the targeted fixed star is requested by including the fundamental star where the grade doesn't change in the image. The planet parameter and presence of the planet are requested by examining the change of the time of the grade.

In this work, an extrasolar planet TrES-1\_b was observed. As a result of the observation, it was confirmed to observe by the transit method in a current observation equipment.