

Development Plan of the Japan-Hawaii-Europe Telescope Dedicated to Observation of Planets at Haleakala, Hawaii: III

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We plan to construct a 1.9m off-axis Gregorian telescope at the summit of Mt. Haleakala, Maui, Hawaii in collaboration with the Institute for Astronomy of University of Hawaii and Institut fur Astronomie of ETH Zurich.

The telescope is dedicated to observation of solar system planets and exoplanets. When we try to observe a faint emission surrounding these targets, intense solar scattered light from the planetary disk becomes a serious problem if we see a solar system planet, and strong light from the mother star in case we are going to observe an exoplanet. In order to suppress this problem, it is necessary to avoid diffraction due to a spider structure that holds a secondary mirror and to minimize the scattered light from mirror surfaces as far as possible. Because a telescope with such a wide dynamic range dedicated to observation of planets does not exist yet, it is expected the telescope will become a unique facility for the ground-based observation of planets when it is realized.

At present, a research collaboration contract between Tohoku University and University of Hawaii will soon be approved for the telescope project, and purchase of a glass blank for the primary mirror, studies on polishing technology and mechanical structure of the telescope are now under way.

At the presentation, current status of a development plan of our telescope will be given, along with an example of expected observation that is possible only with the new telescope.