

Thirty Meter Telescope for Planetary Sciences

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National Astronomical Observatory (NAOJ) is making efforts to promote a project to build a 30m optical/infrared telescope on Mauna Kea, Hawaii, with an international consortium. Current partners supporting the preparatory activities are California Institute of Technology and University of California, Association of Canadian Universities for Research in Astronomy. NAOJ is joining as a collaborating partner. China, India, and Brazil is interested in participating in the consortium. Construction of TMT can start from the fall of 2011 and the first



light is expected as early as the fall of 2018, provided that necessary fund to complete the project is secured timely. (cr) TMT equipped with advanced laser guide star adaptive optics system will attain observational capabilities, 4 times finer in spatial resolution, 13 times larger in photon collecting power and 200 times faster in efficiency than those currently available with 8m class telescopes, including Subaru Telescope. TMT is expected to make break throughs in the studies of early universe and the extra-solar planets. (cr) The number of extra-solar planets found so far exceeds 400, and will grow rapidly. TMT will enable direct imaging observations of those objects and allow spectroscopic observations of their atmosphere when some of those planets are traversing in front of the mother stars. We believe TMT will be an essential tool not just for astronomy but planetary sciences. (cr) The outline and the current status the TMT project will be reported.

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