

## [구AT-01] Giant Magellan Telescope Project in 2014

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Korea Astronomy and Space Science Institute (KASI) has been participating in the Giant Magellan Telescope (GMT) project since 2009. In 2014, GMT project has passed its important milestones toward construction of the telescope and observatory facilities. We will report the recent achievements and current status of the project in this contribution.

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## [구AT-02] Optical Design of the DOTIFS Spectrograph

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The DOTIFS is a new multi-object Integral Field Spectrograph (IFS) planned to be designed and built by the Inter-University Center for Astronomy and Astrophysics, Pune, India, (IUCAA) for cassegrain side port of the 3.6m Devasthal Optical Telescope (DOT) being constructed by the Aryabhata Research Institute of Observational Sciences, Nainital. (ARIES) It is a multi-integral field unit (IFU) spectrograph which has 370-740nm wavelength coverage with spectral resolution R~1200-2400. Sixteen IFUs with microlens arrays and fibers can be deployed on 8 arcmin field. Each IFU has 8.7"x7.4" field of view with 144 spaxel elements. 2304 fibers coming from IFUs are dispersed by eight identical spectrographs with all refractive and all spherical optics. In this work, we show optical design of the DOTIFS spectrograph. Expected performance and result of tolerance and thermal analysis are also shown. The optics is comprised of f=520mm collimator, broadband filter, dispersion element and f=195mm camera. Pupil size is determined as 130mm from spectral resolution and budget requirements. To maintain good transmission down to 370nm, calcium fluoride elements and high transmission optical glasses have been used. Volume Phase Holographic grating is selected as a dispersion element to maximize the grating efficiency and to minimize the size of the optics. Detailed optics design report had been documented. The design was finalized through optical design review and now ready for order optics.