

경도상 위치가 적당히 3등분 되어있어 동일한 천체를 최대 24시간 연속하여 관측 가능하다. 우리는 이 시스템이 가진 장점을 최대한 살릴 수 있는 연구주제를 선정하여 2015년 10월부터 본격적으로 관측을 수행해오고 있다. 3월부터 10월에는 3개 관측소에서 우리은하 중심부를 24시간 연속 관측하여 미시중력렌즈 방법을 이용한 외계행성 탐색연구를 수행하고 은하 중심부를 관측할 수 없는 기간에는 초신성, 소행성 및 외부은하 등을 관측한다. 각 관측 프로그램의 시간배정 및 관측결과 요약 등의 정보를 홈페이지에 제공함으로써(<http://kmtnet.kasi.re.kr/kmtnet-monitor/>) 각 프로그램의 관측 상황을 효율적으로 모니터링 할 수 있도록 지원한다. 이 발표에서는 지난 2015년 우리은하 중심부를 관측하여 얻은 약 31.5TB의 관측 자료 분석 결과를 통해 구한 관측시스템의 성능을 리뷰하고 2016년 관측시스템 운영계획에 대하여 논의한다.

### [구 KMT-02] KMTNet Supernova Program : Year One Progress Report

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With the official start of the operations of the three 1.6 m KMTNet telescope systems from 2015 October, we have initiated a program named KMTNet Supernova Program (KSP) from 2015 to 2019 aiming at searching for supernovae (SNe), other optical transients and related sources. Taking advantage of the 24-hour coverage, high cadence and multi-color monitoring observations, this is optimal for discovering early SNe and peculiar ones. From the start of the previous test observing runs of ~half a year, we have performed observations on several nearby galaxy groups and nearby galaxies with short separations on the sky. We have developed data reduction/variable object search pipelines, meanwhile we have discovered some interesting transient objects. We also stacked all the images for given fields, searched for new objects/galaxies, and discovered several new dwarf galaxies, e.g., in the NGC 2784 galaxy group field (H. S. Park et al.'s talk). We will report the current project status and the results obtained.

### [구 KMT-03] New Dwarf Galaxies in the Nearby NGC 2784 Galaxy Group Discovered in the KMTNet Supernova Program

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We present surface photometry results of the dwarf galaxies in the nearby NGC 2784 galaxy group. We newly detected about 30 dwarf galaxy candidates at about 30 square degree area around the nearby NGC 2784 galaxy (D~10 Mpc and MV=-20.5) applying a visual inspection technique on the wide-field optical images taken by the KMTNet Supernova Program (KSP). Surface brightnesses of the objects estimated from the stacked-images with total exposure time of about 6 hours reach approximately  $\mu V \sim 28.5$  mag/arcsec<sup>2</sup> around  $3\sigma$  above sky background. The central surface brightness and the total absolute magnitude for the faintest candidate dwarf galaxy among about 40 galaxies including the previously known ones is  $\mu_{0,V} \sim 26.1$  mag/arcsec<sup>2</sup> and  $M_V \sim -9.5$  mag, respectively. The effective radii of the candidates are larger than ~200 pc. The radial number density of the dwarf galaxy candidates from the center of NGC 2784 is decreasing. The mean color ( $\langle(B-V)_0 \rangle \sim 0.7$ ) and Sérsic structure parameters of the dwarfs, assuming them to be located in the NGC 2784 group, are well consistent with those of the dwarf galaxies in other groups (e.g. M83 group and the Local Group (LG)). The faint-end slope of the cumulative luminosity function (CLF) of the galaxies in NGC 2784 group is about  $\alpha = -1.2$ , which is steeper than that of the LG galaxies, but is much flatter than that of the CLF expected by a  $\Lambda$ CDM model.

### [구 KMT-04] KINGS: A Preliminary Result of the Fornax cluster

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We present a preliminary result of the Fornax cluster survey as a part of the KMTNet Intensive Nearby Southern Galaxy Group Survey (KINGS). We discovered about 200 new dwarf galaxy candidates from the survey of the  $8^\circ \times 6^\circ$  area around the Fornax cluster. They have magnitudes ranging from  $V=17.5$  to 22 mag ( $M_V = -13.8$  to  $-9.3$ ), and they are almost complete to  $V = 20$  mag. Surface