TRAO Radio Telescope(대덕전파천문대 레이돔 교체)

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전파망원경 레이돔은 14미터 우주전파망원경을 외부 환경(눈, 비, 바람, 햇빛)으로 부터 보호하여 효율적인 우주전파 관측연구를 수행하는데 필수적인 연구시설이다. 현재 사용 중인 대덕전파천문대 레이돔은 1985년에 설치되어 30년째 사용 중이다. 노후화로 인해 누수가 있으며, 겨울철에는 내부에 빙결이 발생하며, 유지보수가 어려운 상황이다.

본 발표에서는 2016년 12월말부터 2017년 2월 초까지 이루어진 레이돔의 교체과정과 기존 레이돔과 교체된 레이돔의 성능 등을 발표한다.

[구 AT-02] Critical Design Status of the G-CLEF Flexure Control Camera

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The GMT-Consortium Large Earth Finder (G-CLEF) is the very first light instrument of the Giant Magellan Telescope (GMT). The instrument is a fiber feed, optical band echelle spectrograph that is capable of extremely precise radial velocity measurement, and has been being developed through the international consortium consisted of five astronomical institutes including Smithsonian Astrophysical Observatory (SAO), Observatories of the Carnegie Institution of Washington (OCIW), and Korea Astronomy and Space Science Institute (KASI). The Preliminary Design Review (PDR) for the G-CLEF was held in Cambridge, Massachusetts in April 2015. It is scheduled to have Critical Design Review (CDR) in March 2018. Flexure Control Camera (FCC) is one of the KASI's major contributions to the G-CLEF project. In this presentation, we describe the current critical design status, and structural and thermo-elastic analyses results on the G-CLEF FCC.

[구 AT-03] Wide-Field Imaging Telescope-0(WIT0): A New Wide-Field 0.25 m Telescope at McDonald Observatory

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A small wide-field imaging telescope is a powerful instrument to survey the Universe: wide-field image can monitor the variability of many sources at a time, e.g. young stellar objects and active galactic nuclei, and it can be an effective way to locate transient sources without precise positional information such as gravitational wave sources or some gamma-ray bursts. In February 2017, we installed a 0.25 m f/3.6 telescope on the McDonald 0.8 m telescope as a piggyback system. With a 4k X 4k CCD camera, the telescope has a 2.35 X 2.35 deg field-of-view. Currently, it is equipped with Johnson UBVRI filters and 3 narrow-band filters: Hα, OIII and SII. We will present the installation process, and the telescope performance such as detection limit and image quality based on the data from commissioning observations. We will also discuss possible scientific projects with this system.

[구 AT-04] Control Software of SQEUAN (SED camera for the QUasars in EArly uNiverse)

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Spectral energy distribution camera for QUasars in EArly uNiverse (SQUEAN) is a successor of Camera for Quasars in EArly uNiverse (CQUEAN) which was developed by Center for the Exploration of the Origin of the Universe and operated at the 2.1 m Otto Struve Telescope in the McDonald Observatory, USA, since 2010. The software of SQUEAN controls a science camera, a guiding camera, and a filter wheel, and communicates with the telescope control system (TCS). It has been