

telescopes together, the small telescope network hopes to bring these telescopes in full operation and offer Korean astronomers competitive observational resources. In this talk, we will outline the project, describe potential resources, and several science cases such as multi-messenger astronomy, supernovae, and AGN. We will also introduce how this project might be run, with the expected operation of the small network starting at 2020.

[구 STN-02] 국내 소형망원경 네트워크 구축을 위한 국내 소형 망원경 현황 조사 및 수요 Study on current potential resources and demand for networking the small telescopes in Korea

Yonggi Kim^{1,2}, Junhyeok Jeon^{1,3}, Joh-Na Yoon², Jong-Jin Lim¹, Sang Geol Kim¹, Myungshin Im⁴
¹*Dept. of Astronomy and Space Science, Chungbuk National University*
²*Chungbuk National University Observatory*
³*Basic Science Research Institute, Chungbuk National University*,
⁴*Seoul National University*

본 연구는 소형망원경 네트워크 구축과 활용을 위해 수행한 국내 천문대(천문과학관)에서 운용중인 주 망원경의 현황을 파악하고 망원경보유 기관의 종사자들이 소형망원경네트워크 구축에 대한 관심을 알아보보는 설문조사 및 분석으로 구성되었다. 각 기관이 보유하고 있는 주망원경에 대한 제원, 사용하고 있는 관측기기, 원격관측 가능여부 및 향후 네트워크 참여 의향 여부 및 주망원경을 이용한 교육프로그램 등에 대한 15가지 설문내용을 국내 망원경보유기관에 설문회피해서 얻어진 결과들을 발표할 예정이다. 국내 소형망원경들을 공동 활용하여 연구 및 교육활동에 활발하게 사용하는데 기여하기 위한 방안의 일환으로 사용될것으로 판단된다

[구 STN-03] Exoplanet Science Cases with Small Telescope Network

Wonseok Kang(강원석)¹, Taewoo Kim(김태우)¹
¹*National Youth Space Center(국립청소년우주센터)*

Based on our experience on exoplanet transit observation, we propose the exoplanet science cases with Small Telescope Network. One is the follow-up observation for validation of exoplanet candidates. TESS(Transiting Exoplanet Survey Satellite) is pouring out exoplanet candidates in bright stars($V < 15$) on all the sky. Since Small Telescope Network will consist of 0.5-1m telescopes, we will expect to produce promising outcomes from the follow-up observation of bright candidates. Next is the transit time observation. By spectroscopy of space and large telescopes during

transit event, it can be possible to find the bio signatures in exoplanet atmosphere. So, in terms of cost, it is critical to determine the exact time of transit event. In addition, detecting the variation of transit time can reveal another exoplanet and exomoon in the system. In order to determine the transit time and its variation, the accumulation of transit event data is more important than the quality of photometric data. We expect that it can be a challenging project of Small Telescope Network.

[구 STN-04] Monitoring Observations of Active White Dwarf Binary Systems

Hee-Won Lee¹, Bo-Eun Choi¹, Myungshin Im², Gu Lim²
¹*Sejong University*
²*Seoul National University*

Binary systems of a white dwarf showing mass transfer activities are classified into cataclysmic variables and symbiotic stars. In the case of cataclysmic variables, the companion is usually a late type main sequence star filling its Roche lobe, where material is transferred through the inner Lagrangian point to form an accretion disk around the white dwarf. The disk becomes unstable and highly viscous when the surface density exceeds the critical density, leading to dwarf nova outbursts. In contrast, symbiotic stars are wide binary systems having a giant as the mass donor. Some fraction of giant stellar wind is accreted to the white dwarf giving rise to various symbiotic activities. In particular, half of symbiotics show Raman O VI at 6830 and 7088, which are important spectroscopic probe of mass transfer process. Monitoring observations using 1 m class telescopes will produce valuable information regarding the mass loss and mass transfer to white dwarf stars, shedding much light on the last stage of stellar evolution of low and intermediate mass stars.

[구 STN-05] Research on Solar System Small Bodies using the Korean Small Telescopes Network

Masateru Ishiguro
Seoul National University

Small bodies in the solar system are pristine leftovers of planetesimals since the formation epoch (~4.6 Gyr ago). After the formation, icy planetesimals have been preserved in the distant cold place beyond 30 au (i.e., Trans-Neptunian region) until recently without any catastrophic processes but have just been injected into inner region (<~5 au from the Sun) to be observed as