frequency bandwidth of the Square Kilometre Array (SKA). Our technique could be further utilized to denoise the 21-cm map or constrain the properties of the radiation sources.

[포 AT-03] Alignment of Schwarzchild-Chang Off-axis Telescope with a Shack-Hartmann Wavefront Sensor and Sensitivity Table Method

Sunwoo Lee[1], Woojin Park[1], Yunjong Kim[2], Sanghyuk Kim[2], Seunghyuk Chang[3], Byeongjoon Jeong[4], Geon Hee Kim[4] and Soojong Pak[1]
[1]School of Space Research and Institute of Natural Science, Kyung Hee University, [2]Optical Astronomical Technology Group, Korea Astronomy and Space Science Institute, [3]Center for Integrated Smart Sensors, Korea Advanced Institute of Science and Technology (KAIST), [4]Korea Science Basic Institute

The Schwarzchild-Chang telescope is a confocal off-axis two mirror telescope with D = 50 mm, F = 100 mm and FOV = 8 ° × 8 °. Unlike common off-axis telescopes, the mirrors of the Schwarzchild-Chang telescope share their focal points to remove the linear astigmatism. In this poster, we show the alignment process of the Schwarzchild-Chang telescope with wavefront measurement and the sensitivity table method. Wavefront is measured using the Shack-Hartmann sensor, and Zernike polynomials are obtained from measured wavefront. Sensitivity table method is to calculate alignment errors from the Zernike coefficients. As a result, we evaluate tilt, decenter, and despace of each mirror of linear astigmatism-free con-focal off-axis system.

[포 AT-04] Maemi Dual Field Telescope System (MDFTS) : New survey facility of Kyung Hee Astronomical Observatory

Hojae Ahn[1], Na Yeon Kim[1], Dohoon Kim[1], Soojong Pak[1], and Myungshin Im[2]
[1]Department of Astronomy Space Science, Kyung Hee University, [2]Center for the Exploration of the Origin of the Universe, Department of Physics and Astronomy, Seoul National University

We introduce Maemi Dual Field Telescope System (MDFTS) which is newly installed at Kyung Hee Astronomical Observatory (KHAO). MDFTS consists of two telescope tubes (40cm and 10cm), whose observing fields are aligned with different field of view, 15' x 11' and 83' x 63' respectively. We present the specification of instruments (telescope, mount, camera, and filter system) and the observation environment of KHAO. We expect that MDFTS can be used for transient survey e.g. Intensive Monitoring Survey of Nearby Galaxies (IMSNG). Based on observations conducted so far, the limiting magnitude of 40cm telescope in B-band is B_lim ~ 16 mag at 5-σ detection with 150 seconds total integration time under dark and clear observing condition. Also the integrated observing software for MDFTS, KAOS40 is now under developing.

[포 AT-05] Design of control software for GMACS (Giant Magellan Telescope Multi-Object Astronomical and Cosmological Spectrograph)

Hye-In Lee1, Tae-Geun Ji1, Soojong Pak1, Erika Cook2, Cynthia Froning2, Luke M. Schmidt2, Jennifer L. Marshall2, Darren L. DePoy2
[1]School of Space Research, Kyung Hee University [2]Department of Physics & Astronomy, Texas A&M University

GMACS is one of the first light instruments for the Giant Magellan Telescope (GMT). The development of GMACS control software follows Agile software development process, and the design of the software is based on the Unified Model Language (UML). In this poster, we present the architecture of the GMACS software and the development processes. As an example of the software development, we show the software of the Slit Mask Exchange Mechanism Prototype (SMEM-P) which is part of the GMACS Device Control Package (DCP).