질 수 있다.

[포 AE-03] 2016 YAM & We Love Galaxies Joint Workshop for Graduate Students

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YAM (Young Astronomers Meeting, 젊은 천문학자들의 모임)과 We Love Galaxies는 인적/학문적 네트워크가 중요시되는 시대의 흐름에 발맞춰 국내 천문학 전공 대학원생들을 위한 워크샵인 “2016 YAM & We Love Galaxies 공동 워크샵”을 강촌에서 개최하였습니다. 2016년 2월 24일부터 26일까지 2박 3일간 개최된 이번 워크샵에는 총 35명의 대학원생/학부생/박사후연구원이 참가하였고, 전원 포스터 발표를 통해 참여 학생 모두가 자신의 연구주제를 자유롭게 소개하고 교류할 수 있도록 하였습니다. 뿐만 아니라 대학원 생활 및 연구 활동에 관련된 9개의 주제를 가지고 조별 토론을 진행하였습니다. 본 발표에서는 "2016 YAM & We Love Galaxies 공동 워크샵”의 성과와 학생들로부터 받은 피드백을 소개하고 대학원생 워크샵이 나아가야 할 방향에 대해 제시하고자 합니다.

[포 AE-04] Activity Report of Young Astronomers Meeting in 2015-16 Season

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지난 2015년 4월, 젊은 천문학자 모임(Young Astronomers Meeting, YAM)은 봄 정기총회를 가졌고 2015-16 시즌을 위한 임원진으로 회장 현민희, 부회장 안성호, 총무 박진태가 선출되었다. 이 외에도 각 학교별 운영위원으로 경북대학교 신지혜, 경희대학교 윤형식, 서울대학교 정하은, 세종대학교 허정은, 연세대학교 홍승수, 충남대학교 유현주, 과학기술연합대학원대학교 이혜란 회원이 활동 중이다. 현 임원진은 이번 임기 내 목표로 지금까지의 YAM 역사를 정리하고, 이를 공유할 수 있는 홈페이지를 구축하고자 하였다. YAM 역사 정리 부분에서는, 1991년 서울대학교에서 개최된 한국천문학회에서의 YAM 창단 이후의 모든 활동과 역대 임원진에 대한 서류 자료를 정리하고 홈페이지에 게시하였다. YAM 홈페이지 구축 부분에서는 지난 2015년 8월, 한국천문학회에 YAM 홈페이지 구축을 위한 제안서를 제출, 2016년 초에 학회의 승인을 받아 한국천문학회 홈페이지 서버에 YAM 홈페이지를 개설하였다. 이와 더불어 2016년 2월에 개최된 “2016 YAM & We Love Galaxies 공동 워크샵”을 통해 국내 대학원생들을 위한 워크샵을 개최하고 추후 지속적으로 진행할 수 있도록 노력하였다. 이번 포스터 발표를 통해 2015-16 시즌 동안의 활동 결과 보고와 2016-17 시즌 활동 계획을 논의할 것이다.

외부은하/우주론

[포 GC-01] Gravitational Lensing by an Ellipsoid with a Supermassive Black Hole

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Gravitational lensed quasar systems are usually modelled by a source quasar lensed by an isothermal sphere galaxy. But most galaxies are elliptical and have a supermassive black hole (SMBH) at its center. We study lensing by an ellipsoid with a central SMBH to investigate the additional lensing effects of a SMBH on the number, position, and magnification of lensed images. We apply the analysis to the observed lens system Q0957+561, and explore the possibility of testing the existence of SMBH at the center of the lensing galaxy.

[포 GC-02] Observation of early photons of Gamma-ray bursts from UFFO/Lomonosov

Soomin Jeong[1] and I. H. Park[2] on behalf of the UFFO collaboration
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Observations of the early photons from evolution of optical afterglows or internal shock provides the crucial clues on the nature of the bursts and environments. Hundreds of GRBs afterglow observations in multi-wavelength region have been made mainly thanks to the fast (~ 60 seconds after the trigger) localisation GRB by Swift and its fast alert to the ground telescope. It helps to improve our understandings tremendously, however many enigmas still remain, such as burst mechanism, transition prompt emission to the afterglow, early optical flash, rise phase of the early optical light curve and some missing afterglows. They could be addressed by fast slewing and multi colour and IR follow-up by future telescopes.

The primary aim of UFFO/Lomonosov is to follow up optical fast ever, within a couple of seconds after trigger by onboard X-ray telescope. Its optical FOV is 30 x 30 degrees. As a key instrument, the Slewing Mirror to redirect the optical beam from GRBs rapidly to the Ritchey-Chretien telescope. The status and launch schedule of the UFFO/Lomonosov and its test performance will be reported and prospects for the next missions will be discussed.

[포 GC-03] Monitoring of Gamma-ray Bright AGN : The Multi-Frequency Polarization of the Flaring Blazar 3C 279

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We present results of long-term multi-wavelength polarization observations of the powerful blazar 3C 279 after its γ-ray flare on 2013 December 20. We followed up this flare by means of single-dish polarization observations with two 21-m telescopes of the Korean VLBI Network, carried out weekly from 2013 December 25 to January 11, and at 22, 43, and 86 GHz, simultaneously. These observations were part of the Monitoring Of GAmma-ray Bright AGNs (MOGABA) program. We Measured 3C 279 total flux densities at 22, 43, and 86 GHz, showing a mild variability of a factor of $\leq$50% over the period of our observations. The spectral index ranged from -0.13 to -0.36 at between 22 and 86 GHz. The degree of linear polarization was in the range of 6 ~ 12 %, and slightly decreased with time at all frequencies. We found Faraday rotation measures (RM) of -300 to -1200 rad m^{-2} between 22 and 43 GHz, and -800 to -5100 rad m^{-2} between 43 and 86 GHz. The RM values follow a power law $|RM| \propto \nu^{a}$, with a mean a of 2.2, implying that the polarized emission at these frequencies travels through a Faraday screen in or near the jet. We conclude that the regions emitting polarized radio emission may be different from the region responsible for the 2013 December γ-ray flare, and that these regions are maintained by the dominant magnetic field perpendicular to the direction of the radio jet at milliarcsecond scales.

[포 GC-04] The Demographics of galactic bulges in the SDSS database

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We present a new database of our two-dimensional bulge-disk decompositions for 14,482 galaxies drawn from SDSS DR12 in order to examine the properties of bulges residing in the local universe ($0.005 < z < 0.05$). We performed decompositions in g and r bands by utilizing the GALFIT software. The bulge colors and bulge-to-total ratios are found to be sensitive to the details in the decomposition technique. The g-r colors of bulges derived are almost constantly red regardless of bulge size except for the bulges in the low bulge-to-total ratio galaxies (approximately $B/T_r \leq 0.3$). Bulges exhibit similar scaling relations to those followed by elliptical galaxies, but the bulges in galaxies with lower bulge-to-total ratios clearly show a gradually larger departure in slope from the elliptical galaxy sequence. The scatters around the scaling relations are also larger for the bulges in galaxies with lower bulge-to-total ratios. Both the departure in slopes and larger scatters are likely originated from the presence of young stars. While bulges seem largely similar in optical properties to elliptical galaxies, they do show clear and systematic departures as a function of bulge-to-total ratio. The stellar properties and perhaps associated formation processes of bulges seem much more diverse than those of elliptical galaxies.