significant lines including Si II and Ca II lines will be shown and discussed.

[포GC-08] The optical afterglow of GRB 180205A

Gregory SungHak Paek, Myungshin Im, Changsu Choi, IMSNG team
Center of the Exploration of the Origin of the Universe, Astronomy Program, Department of Physics & Astronomy, Seoul National Univsersity, Gwanak-rho, Gwanak-gu, Seoul 08826, Korea

On 2018 February 5 a gamma ray burst with trigger time 04:25:29.3 UT was detected by Swift BAT and this event was named GRB 180205A. We observed the optical afterglow of GRB 180205A starting from about 1 hour after the burst until February 22 in the optical bands with the 1m telescope of Deokheung Optical Astronomy Observatory (DOAO), the 1m telescope at Mt. Lemmon Optical Astronomy Observatory(LOAO) and the 0.8m and 0.25m telescopes at McDonald Observatory.

According to the fireball model, which is a well-accepted and conventional model for the afterglow of the GRB, the mechanism of the afterglow is that the expanding external blast wave of the GRB successively collides with the ambient medium and loses its energy, and as a result emits radiation at wavelengths longer than gamma rays.

Here we present optical photometry and light curve of the afterglow in the R band and analyze it to characterize GRB 180205A.

[포GC-09] Identifying Cluster Candidates in CFHTLS W2 Field

Insu Paek[1,2], Myungshin Im[1,2], Jae-Woo Kim[3], IMS team[1,2]
[1]Center for the Exploration of the Origin of the Universe, [2]Astronomy Program, Department of Physics & Astronomy, Seoul National University, [3]Korea Astronomy and Space Science Institute

Recent studies of galaxy clusters have shown that the galaxy clusters in dense environment tend to have lower star formation rate in local universe with $z < 1$. However, this correlation is not significant in galaxy clusters with $z > 1$. The study of galaxy clusters around z=1 can yield insight into cosmological galaxy evolution. Nevertheless, the identification of galaxy clusters beyond the scope of immediate local universe requires wide field data in optical and near-infrared bands. By incorporating data from Canada-France-Hawaii Telescope Legacy Survey(CFHTLS) and Infrared Medium-Deep Survey(IMS), the photometric redshifts of galaxies in CFHTLS W2 field were calculated. Using spatial distribution and photometric redshifts, the galaxies in the field were divided into redshift bins. The image of each redshift bin was analyzed by measuring the number density within proper distance of 1Mpc. By comparing high density regions in consecutive redshift bins, we identified the cluster candidates and mapped the large-scale structure within the CFHTLS W2 field.

[포GC-10] Lyman-alpha radiative transfer through outflowing halo models to understand both the observed spectra and surface brightness profiles of Lyman-alpha halos around high-z star-forming galaxies

Hyunmi Song (송현미), Kwang-il Seon (선광일)
Korea Astronomy and Space Science Institute (한국천문연구원)

With a recent observational study of extended Lyman-alpha halos around individual high-z star-forming galaxies by Leclercq et al. (2017) using MUSE, we perform radiative transfer calculations to see if Lyman-alpha scattering can explain the spatial extents of the halos together with their spectra. We adopt a spherically-symmetric halo model in which Lyman-alpha sources and neutral hydrogen (HI) medium have exponential density distributions. The HI medium is set to have outflowing motion based on a momentum-driven wind scenario in a gravitational potential well. We run our Lyman-alpha radiative transfer code, LaRT, upon this halo model for various sets of parameters regarding the HI medium such as temperature, optical depth, density scale radius, outflow velocities, and dust content. We analyze simulation results to see the impact of each parameter on Lyman-alpha spectra and surface brightness profiles, and degeneracies between the parameters. We also find a parameter set that best reproduces simultaneously the observed spectra and surface brightness profiles of the MUSE Lyman-alpha halos.

[포GC-11] Survey of Faint Quasar candidates at $4.7 \leq z \leq 5.2$

Suhyun Shin[1,2], Myungshin Im[1,2], Yongjung Kim[1,2], Minhee Hyun[1,2], Woojin Park[10], Tae-geun Ji[10], Yiseul Jeon[3], Minjin Kim[4,5], Dohyeong Kim[1,2], Jae-Woo Kim[4], Yoon Chan Taak[1,2], and Yongmin Yoon[1,2], Changsu Choi[1,2], Jueun Hong[1,2], Hyunsung David Jun[6], Marios Karouzos[7], Duho Kim[8], Ji Hoon Kim[9], Seong-Kook Lee[1,2], Soojong Pak[10], and Won-Kee