We explore the role of various environments in triggering star formation (SF) and narrow-line active galactic nucleus (AGN) in SDSS spiral galaxies and the SF-AGN connection, using a volume-limited sample with $M_r < -19.5$ and $0.02 < z < 0.055$ selected from the SDSS Release 7. To avoid the dependency of AGN activity on bulge mass, the central velocity dispersion of the sample galaxies is limited to have a narrow range of $130 \leq \sigma \leq 200$km s^{-1}. We note that in gas sufficient galaxies, AGN feeding lags behind starburst, whereas as the gas exhausts, the SF slows down and AGN seems to even prevent the SF, and thus divide the high-σ sample into two subsamples according to their cold gas content at central region traced by fiber star formation rate, $\mathrm{SFR_{fib}}$. We find that a high density (cluster) environment causes a significant increase in AGN activity as well as gas depletion in host galaxies. However, the finding is only noticeable in the high-σ and low $\mathrm{SFR_{fib}}$ sample. It seems that a galaxy interaction with the nearest neighbor directly affects the SF of the central region. However, it is unclear whether it directly affects AGN activity.

[포GC-05] Properties of BzK Galaxies Selected in DLS F1 Field

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The redshift range 1.4 ≲ z ≲ 2.5 is often called the 'redshift desert' because of the difficulties in measuring spectroscopic redshifts due to the shifting of the major spectroscopic features into near-infrared wavelength (Steidel et al. 2004). One of the most efficient and fast way to select galaxies at this redshift range is the BzK technique designed by Daddi et al. (2004). Combining deep BVRz data from Deep Lens Survey with the wide-field (~4.08 deg2) K-band image, we select 1200 star-forming BzKs (sBzKs) and 120 passive BzKs (pBzKs) at K < 21.25. We discuss about the photometric redshifts, star formation rates, and stellar mass of the selected BzKs. Possible large scale structure at 1.4 ≲ z < 1.6 based on the spatial distribution of the BzKs is also introduced.

[포GC-06] Abell 2261: a fossil galaxy cluster in a transition phase

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Fossil groups of galaxies have characteristic features of a dominant central elliptical galaxy ($\triangle M_{12} > 2$ in $0.5R_{vir}$) embedded in highly relaxed X-ray halo, which indicates dynamically stable and evolved systems. These are thought as a final stage of the evolution of galaxy groups in the hierarchical structure formation scenario. However, the formation and evolution of fossil clusters are still unclear due to lack of detailed studies. Therefore, we perform a kinematic research of a known fossil cluster Abell 2261 (A2261 hereafter) using spectroscopic data of 589 galaxies in the A2261 field. Even though A2261 is known as a fossil cluster, previous studies found several unusual features such as quite high X-ray entropy for a stable cluster, and an elongated shape, which are not expected in standard fossil clusters. Using the caustic method, we identify cluster member galaxies and discover a second bright galaxy ($\triangle M_{12} = 1.68$) at ~$1.5R_{vir}$. The presence of such a bright galaxy can break the current fossil state of cluster in the near future. In addition, with two independent substructure finding methods, we confirm that the previously detected elongated galaxy distribution of the cluster is a real feature. These findings indicate that A2261 is not in a fully stable state, unlike the existing fossil definition diagnostic. We require a more stringent criterion for the fossil definition to represent a genuinely final stage of cluster evolution.

[포GC-07] Analysis of SN 2014J Early Phase Spectra

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We present the results of high resolution spectral analysis for Type Ia supernova SN 2014J in M82, which was discovered on 21 January 2014 UT. We performed spectroscopic observations for SN 2014J in its early phase at Bohyunsan Optical Astronomy Observatory with the high resolution echelle spectrograph BOES attached to 1.8-m reflector. Spectra of 26 epochs in 6 nights were obtained from 22 January 2014 to 23 February 2014 UT. Spectral feature variations for several