[구GC-09] Introduction to AMUSES : AKARI survey with a window of opportunity

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With advancement of infrared space telescopes during the past decade, infrared wavelength regime has been a focal point to study various properties of galaxies, such as stellar mass, dust contents and dust-hidden star formation with respect to evolution of galaxies. Polycyclic Aromatic Hydrocarbons (PAHs) have emerged as one of the most important features since these features dominate mid-infrared spectra of galaxies. These PAH features provide a great handle to calibrate star formation rates and diagnose ionized states of grains. However, PAH 3.3μm feature has not been studied as much as other PAH features since it is weaker than others and resides outside of Spitzer's capability. Still its calibration and characterization are important since it will be the only PAH feature accessible by JWST for high-z galaxies. AKARI mJy Unbiased Survey of Extragalactic Sources in 5MUSES (AMUSES) intends to take advantage of AKARI's capability of spectroscopy on 2 to 5 μm to provide an unbiased library of 44 sample galaxies selected from a parent sample of 5MUSES, one of Spitzer legacy projects. For these 3.3mm flux limited sample galaxies whose redshifts range between $0 < z < 1$, AMUSES will calibrate PAH 3.3μm as a SFR while measuring ratios between PAH features and investigating Bra's potential as a SFR indicator. We present preliminary results of AMUSES. This work was supported by the National Research Foundation of Korea(NRF) grant funded by the Korean government(MEST), No. 2009-0063616.

[구GC-10] Discovery of the Extraplanar FUV Halo of NGC 891

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We report the extended far-ultraviolet (FUV) halo of NGC 891 above the galactic plane. The FUV intensity distribution is well described by two exponential components, one with the scale height of ~ 0.34 kpc and the other of ~ 2.3 kpc. The extraplanar FUV halo is traceable up to > 5 kpc. The FUV halo is attributable to scattered-off starlight by extraplanar dust. Using Monte-Carlo radiative transfer simulations, the FUV intensity distribution along the minor axis is found to be well modeled with two dust comonents. Its implications are discussed.