

detected in the first 105 months of observations with the Burst Alert Telescope (BAT) on board the Neil Gehrels Swift observatory. The 105 month Swift-BAT survey is a uniform hard X-ray all-sky survey performed in the 14–195 keV band. The Swift-BAT 105 month catalog provides 1632 (422 new detections) hard X-ray sources in the 14 - 195 keV band above the 4.8 sigma significance level. Adding to the previously known hard X-ray sources, 34% (144/422) of the new detections are identified as Seyfert AGN in nearby galaxies ($z < 0.2$). The majority of the remaining identified sources are X-ray binaries (7%, 31) and blazars/BL Lac objects (10%, 43). As part of this new edition of the Swift-BAT catalog, we release eight-channel spectra and monthly sampled light curves for each object in the online journal and at the Swift-BAT 105 month Web site.

[7 GC-18] An Interesting Story of Four Gamma-ray Bright AGNs by the iMOGABA

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A Korean VLBI Network key science program, the Interferometric Monitoring of Gamma-ray Bright AGNs (iMOGABA) program continues to reveal the nature of the gamma-ray flares in active galactic nuclei (AGNs). Here in this presentation, we would like to introduce an interesting story about four gamma-ray bright AGNs - BL Lac, 1633+382, 3C 84, and M87 - based on the recent results of the iMOGABA. The results will include a) a sad story of an 'orphan' gamma-ray flare from BL Lac, b) a position offset of 40 pc for a gamma-ray flaring site from the radio regions in 1633+382, c) a position alignment of a gamma-ray flaring site with a central engine region in 3C 84, and d) a flat millimeter spectrum of a core in M87 revealed by the iMOGABA.

[7 GC-19] Ionized gas outflows in $z \sim 2$ WISE-selected Hot Dust Obscured Galaxies

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The Wide-field Infrared Survey Explorer (WISE) mission has been efficient in selecting Active Galactic Nuclei (AGN) with high luminosities and large obscuration. According to the merger driven AGN powering scenarios, luminous and obscured AGN are in a stage where they go through feeding of gas accretion into the central black hole, and feedback to the host galaxy through outflows. We report the rest-frame UV-optical spectra of 11 Hot

Dust Obscured Galaxies (Hot DOGs) at $z \sim 2$, WISE color-selected to be extremely reddened AGN. A fraction of the targets show blueshifted and broadened [OIII] profiles indicative of ionized gas outflows. We present the occurrence and strength of the outflows, and discuss what impact these AGN activity could give on their hosts.

[박 GC-20] Unveiling Intrinsic Properties of Dusty Red AGNs

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Theoretical simulation studies suggest that dust-obscured AGNs appear for a certain period when merger-driven star-forming galaxies evolve to unobscured type 1 AGNs. The dust-obscured AGNs would have red colors due to the dust extinction in their host galaxies, and they are expected to have higher accretion rates than unobscured type 1 AGNs. Red AGNs are found by selecting type 1 AGNs with very red colors, and they have been suspected as the intermediate-stage, dusty AGNs. However, it is not yet clear if red AGNs really correspond to the dusty AGNs due to a lack of intrinsic properties of red AGNs. For unveiling intrinsic properties of red AGNs, we study the NIR and MIR spectra of unobscured type 1 AGNs and red AGNs. There are three main themes: (i) derivation of NIR and MIR BH mass estimators can be used for red AGN study; (ii) investigation of red AGN selection methods to test its usefulness to identify dusty red AGNs; and (iii) investigation of the accretion rates of red AGNs to see if they have the properties as predicted in the simulation studies.

[7 GC-21] High- z Universe probed via Lensing by QSOs (HULQ): Expected Number of QSOs acting as Gravitational Lenses

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The HULQ project proposes to use gravitational lensing to determine the masses of QSO host galaxies, an otherwise difficult goal. If these host galaxy masses, along with their SMBH masses from single-epoch measurements, are estimated for a substantial number of QSOs at various redshifts, the co-evolution of SMBHs and their host galaxies can be studied for a large portion of the history of the universe. To determine the feasibility of this study, we present how to estimate the number of