[구GC-13] The AGN-Bar Connection

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We investigate the relation between the presence of bars in galaxies and AGN activities. Bars are believed to play an important role in fueling of AGN. Although there have been many previous studies on this topic, "the AGN-Bar Connection" is still an open question. To better understand the connection, we use a volume-limited sample of 9,726 late-type galaxies brighter than $M_r = -19.5 + 5\log h$ at $0.02 \leqq z \leqq 0.05489$, drawn from SDSS DR7. Among galaxies in the sample, 1,963 galaxies are classified as AGN-host galaxies based on the emission-line ratios while barred galaxies are identified by visual inspection. The bar fraction in AGN host galaxies (22.5%) is 3-times higher than in star-forming galaxies (8.6%). However, this trend is simply caused by the fact that the bar fraction increases with galaxy mass or luminosity and that AGN host galaxies are on average more massive than star-forming galaxies. Nevertheless, we find that among AGN host galaxies, the bar fraction increases with the Eddington ratio ($L_{[OIII]}/M_{BH}$), and this trend remains intact even at fixed galaxy luminosity and stellar velocity dispersion. These results imply that bars play a role in triggering AGNs.

[포GC-14] Detection Probabilities of the X-ray Point Sources in X-ray Extended Sources

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Galaxy clusters are known to be very bright in X-ray and contain a large number of X-ray point sources within the X-ray emission. However, due to the fluctuations of the X-ray emission, it is very difficult to detect faint X-ray sources and to extract accurately the photometric properties of the X-ray point sources in galaxy clusters. In addition, the most X-ray telescopes show spatially varying point spread function (PSF) and suffer from severe vignetting. The Chandra Archival Survey of Galaxy Clusters project is a wide-area (~$40 deg^2$) survey of serendipitous Chandra X-ray sources in galaxy cluster fields, containing ~58,000 X-ray point sources in ~800 Chandra ACIS observations of ~600 galaxy clusters. This project aim to investigate the density environmental effects on the physical properties of the X-ray point sources, comparing physical properties of the X-ray point sources in galaxy clusters to those in typical fields. To utilize the sensitivity and detection probability of the X-ray point sources in galaxy clusters, we perform extensive Monte-Carlo simulations. In this poster, we compare the detection probability of the X-ray point sources in galaxy clusters to that of typical fields, and discuss quantitatively the difference between them.