Claudio Ricci[4], Kevin Schawinski[5], Benny Trakhtenbrot[5], Isabella Lamperti[6]
[1]Kyoto University, [2]JSPS Fellow, [3]Eureka Scientific, [4]Universidad Diego Portales, [5]ETH Zurich, [6]University College London

We present the BAT AGN Spectroscopic Survey (BASS) which is an optical/NIR spectroscopic survey of the least biased sample of hard X-ray selected local AGN. For more than a thousand AGN that identified through Swift-BAT hard X-ray all-sky survey, we are conducting dedicated spectroscopic observing runs using world-class telescopes such as ESO-VLT, Magellan, and Palomar. The goal of the project is measuring black hole mass, investigating supermassive blackhole growth and its structure, and providing a baseline for future X-ray missions that will perform deeper observations of more distant AGN. In this presentation, we briefly introduce the concept of the project, past and the current status, and future work.

[구 GC-07] The impact of ram pressure on the multi-phase ism probed by the TIGRESS simulation

Woorak Choi[1], Chang-Goo Kim[2], and Aeree Chung[1]
*[1]Department of Astronomy, Yonsei University
[2]Department of Astrophysical Sciences, Princeton University*

Ram pressure stripping by intracluster medium (ICM) can play a crucial role in galaxy evolution in the high-density environment as seen by many examples of cluster galaxies. Although much progress has been made by direct numerical simulations of galaxies (or a galaxy) as a whole in a cluster environment, the interstellar medium (ISM) in galactic disks is not well resolved to understand responses of the ISM in details. In order to overcome this, we utilize the TIGRESS simulation suite that focuses on a local region of galactic disks and resolves key physical processes in the ISM with uniformly high resolution. In this talk, we present the results from the solar neighborhood TIGRESS model facing the ICM winds with a range of ram pressures. When ram pressure is weaker than and comparable to the ISM weight, the ICM winds simply reshape the ISM to the one-sided disk, but star formation rates remain unchanged. Although there exist low-density channels in the multiphase ISM that allow the ICM winds to penetrate through, the ISM turbulence quickly closes the channels and prevents efficient stripping. When ram pressure is stronger than the ISM weight, a significant amount of the ISM can be stripped away rapidly, and star formation is quickly quenched. While the low-density gas is stripped rapidly, star formation still occurs in the extraplanar dense ISM (1-2kpc away from the stellar disk). Finally, we quantify the momentum transfer from the ICM to the ISM using the mass-and momentum-weighted velocity distribution functions of each gas phase.

[구 GC-08] Abell 2261: a fossil galaxy cluster in a transition phase

Hyowon Kim[1,2], Jongwan Ko[1,2], Jae-woo Kim[1], Rory Smith[1], Hyunmi Song[1], Ho Seong Hwang[3]
*[1]Korea Astronomy and Space Science Institute
[2]University of Science and Technology
[3]Korea Institute for Advanced Study*

Fossil galaxy cluster has a dominant central elliptical galaxy (△M12 >2 in 0.5Rvir) embedded in highly relaxed X-ray halo, which indicates dynamically stable and passively evolved system. These features are expected as a final stage of the cluster evolution in the hierarchical structure formation paradigm. It is known that Abell 2261(A2261 hereafter) is classified as a fossil cluster, but has unusual features such as a high central X-ray entropy (i.e., non-cool core system), which is not expected in normal fossil clusters. We perform a kinematic study with a spectroscopic data of 589 galaxies in the A2261 field. We define cluster member galaxies using the caustic method and discover a new second bright galaxy at ~1.5 Rvir (nearly the splash-back region). It implies the current fossil state of the cluster can break in the near future. In addition, with three independent substructure finding methods, we find that A2261 has many substructures within 3 Mpc from the center of the cluster. These findings support that A2261 is not in a dynamically stable state. We argue that A2261 is in a transitional phase of dynamical evolution of the galaxy cluster and maybe previously defined fossil cluster does not mean the final stage of the evolution of galaxy clusters.

[구 GC-09] Constraining the ICL formation mechanism using fossil clusters at z~0.47

Jaewon Yoo[1,2], Jongwan Ko[1,2], Jae-Woo Kim[1]
[1]Korea Astronomy and Space Science Institute (KASI), [2]University of Science and Technology (UST)