ram-pressure stripping in these clusters is much stronger than in low-mass clusters. We present preliminary results of star formation rates, kinematics, dynamical states, and ionization mechanisms of our sample galaxies and discuss how ram-pressure stripping relates with the star formation activity of jellyfish galaxies in massive clusters.

[구 GC-11] Ram pressure stripping conditions : Theory vs. Observation

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Ram pressure stripping (RPS) which is known to be one of the key effects that can remove the interstellar gas in the dense environment, can be described as a simple momentum transfer relation (Gunn & Gott 1972). However, it has been suggested that the actual gas stripping process is likely more complicated than Gunn & Gott's prescription due to the complexity of gas physics such as compression, cooling and heating. By comparing the gas truncation radius predicted by theory with the stripping radius measured from the HI observation of Virgo cluster galaxies, we attempt to verify how well the RPS process can be understood by momentum transfer alone. Among the sample of galaxies undergoing active RPS, we generally find a good agreement between what is predicted and what is observed within the measurement uncertainties. However, those galaxies with the signs of other environmental effects than RPS such as tidal interaction, and/or the ones likely at relatively early or later stages of RPS show some offsets between the theory and the observation. These results imply that Gunn & Gott's formula works reasonably well in a broad sense when the RPS is a dominant process and the surrounding environment at the current location of the sample can be well defined. Otherwise, the impact of the second mechanism, as well as the (current and past) environment of the sample, should be more carefully reviewed to assess the impact of RPS on galaxy evolution.

[구 GC-12] The Molecular Gas Kinematics of HI Monsters

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Our HI monster sample is a set of local HI-rich galaxies identified by the ALFALFA survey (Arecibo Legacy Fast Survey ALFA) at z<0.08. Intriguingly, they are also found with a relatively large molecular gas reservoir compared to the galaxies with similar stellar mass and color, yet their star formation rate is quite comparable to normal spirals. This makes our HI monsters good candidates of galaxies in the process of gas accretion which may lead to the stellar mass growth. One feasible explanation for their relatively low star formation activity for a given high cool gas fraction is the gas in monsters being too turbulent to form stars as normal spirals. In order to verify this hypothesis, we probe the molecular gas kinematics of 10 HI monsters which we observed using the Atacama Large Millimeter/sub-millimeter Array (ALMA). We utilize the tilted ring model to investigate what fraction of the molecular gas in the sample is regularly and smoothly rotating. In addition, we model the molecular gas disk using the GALMOD package of the Groningen Image Processing System (GIPSY) and compare with the observations to identify the gas which is offset from the 'co-planar differential rotation'. Based on the results, we discuss the possibility of gas accretion in the sample, and the potential origin of non-regularly rotating gas and the inefficient star formation.

[구 GC-13] Physical Origin of the Planar Alignment of Satellite Galaxies

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The Milky Way (MW) and other systems including M31 and Cen A have flattened structures of their satellites (Disk of Satellites, DoS). Such structures are rare in simulations under the ΛCDM paradigm. DoS is known to depend mainly on 1) the alignment of satellite orbits and 2) the degree of central concentration of satellites. In this work, we examine quantitatively how these two parameters affect the flatness of a system. We find that the MW-like DoS is rare in IllustrisTNG100 simulation because its two parameters are out of the 1-s range and furthermore the MW has a structure more flattened than the other systems having similar parameters. Besides, we propose a new criterion for the MW-like systems superseding the conventional ones such as major-minor axis ratio