literature. The mean value of the differences between the mean velocity of the GC systems in each galaxy and the nucleus velocity of their host galaxies, is almost zero except the M86 GC system. But the scatter of the differences in the blue GC system is larger than that in the red GC system. We will discuss these results in the context of GC formation in ETGs.

[구 GC-18] Globular Clusters in the Brightest Coma Spiral Galaxy NGC 4921 and the Distance to the Coma Cluster

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Deep archival V and I image data taken with Hubble Space Telescope have been used to investigate compact stellar objects in an anemic spiral galaxy NGC 4921 in the Coma cluster. We resolve a significant fraction of globular clusters based on the reconstructed master drizzled image data. The color distribution of globular clusters (GCs) shows a clear bimodal distribution. The blue and red GC populations show significantly different radial number density profiles. We derive the turnover magnitudes of globular cluster luminosity functions (GCLFs) for the blue and red GCs in the bulge and halo of NGC 4921. We also derive the GCLFs of two Coma cD galaxies, NGC 4874 and NGC 4889, and one coma S0 galaxy, NGC 4923. Turnover magnitudes of GCs in four galaxies agree well within uncertainties. A mean distance of four Coma galaxies is derived from turnover magnitudes of GCLFs. A value of the Hubble constant is determined from this distance estimate and radial velocity of the Coma. We discuss implications of our results in relation with the recent determinations of the Hubble constant.

[구 GC-19] Formation and evolution of mini halos around a dwarf galaxy sized halo - Candidate sites for the primordial globular clusters

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We aim to investigate the formation of primordial globular clusters (GCs) in the isolated dwarf galaxy (~$10^{10}M_{sun}$) with cosmological zoom-in simulations. For this, we modified cosmological hydrodynamic code, GADGET-3, in a way to include the radiative heating/cooling that enables gas particles cool down to T~10K, reionization (z < 8.9) of the Universe, UV shielding (n_{shield} > $0.014cm^{-3}$), and star formation. Our simulation starts in a cubic box of a side length 1Mpc/h with 17 million particles from z = 49. The mass of each dark matter (DM) and gas particle is M_{DM} = $4.1\times10^3M_{sun}$ and M_{gas} = $7.9\times10^2M_{sun}$, respectively, thus the GC candidates can be resolved with more than hundreds particles. We found the following results: 1) mini halos with the more interactions before merging into the main halo form the more stars and thus have the higher star mass fraction (M_{star}/M_{total}), 2) the mini halos with the high M_{star}/M_{total} can survive longer and thus spiral into closer to the galactic center, 3) the majority of them spiral into bulge, but some of them can survive until the last as baryon-dominated system, like the GC.

성간물질

[구 IM-01] Infrared Supernova Remnants and Their Infrared to X-ray Flux Ratios

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Recent high-resolution infrared space missions have revealed supernova remnants (SNRs) of diverse morphology in far infrared (FIR), often very different from their X-ray appearance. This suggests that the FIR emission from SNRs could be of different origins. For a sample of 20 Galactic SNRs, we examine the correlation between their FIR and X-ray properties and explore the origin of the FIR emission. We find that the SNRs with very different FIR and X-ray morphology have relatively large infrared-to-X-ray (IRX) flux ratios. We argue that the FIR emission in these SNRs is likely mainly from dust grains radiatively-heated by shock radiation. For SNRs with similar IR and X-ray morphology, the FIR emission of which is probably mostly from dust grains collisionally heated by hot plasma, we compare their IRX flux ratios with theoretical ratios from a model incorporating time-dependent dust destruction and