[포GC-51] What determines the sizes of red early-type galaxies?

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The sizes of galaxies are correlated with their masses or luminosities, which is known as the 'mass-size relation' or 'luminosity-size relation'. Those relations show scatters in the sense that the sizes of galaxies range somewhat widely at given mass or luminosity, which is largely affected by the morphologies or colors of the sample galaxies. However, the scatters of the relations are still large even when the galaxy sample is limited to red early-type galaxies: at fixed mass or luminosity, the largest red early-type galaxies are larger than the smallest red early-type galaxies by a factor of 4 - 5. This is a progress report of a study on what determines the sizes of red early-type galaxies. We investigate how the sizes of red early-type galaxies depend on several quantities of them, such as color, color gradient, axis ratio, local number density and mass-to-light ratio. The physical implication of those preliminary results is discussed.

[포GC-52] M101 Supernova

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We present our follow-up observation of the recently discovered supernova in M101. Being only 6.4 Mpc away from the Earth, the object is a Type-Ia supernova discovered this close in decades. We followed up this event with various observing facilities including on-campus telescopes at Seoul National University, the McDonald observatory's 2.1m telescope, and UKIRT 4-m telescope. The light curves and the preliminary analysis of the multi-wavelength data will be presented, which cover the wavelengths from optical to NIR.