

[박ST-03] **The Star Clusters in the Interacting Spiral Galaxy M51**

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We present a study on star clusters in the interacting spiral galaxy M51 system based on the high resolution images taken with Hubble Space Telescope. We have selected and classified about 3,600 star clusters with $V < 23$ mag in M51 system composed of NGC 5194 and NGC5195. The star clusters in M51 are mostly distributed around the spiral arms of NGC 5194 and are bluer than $(B-V) = 0.5$ and $(V-I) = 0.8$. There are also some red star clusters with $(B-V) > 0.7$ and, unlike other blue star clusters, these red clusters are uniformly distributed over the entire M51 field. The distribution of star cluster ages derived using the spectral energy distribution (SED) fitting method shows two prominent peaks at about 100 Myr and 300 Myr when the dynamical encounters between NGC 5194 and NGC 5195 are predicted to happen by multiple-passage models. The cluster formation rate also appears to be drastically increased near the same epochs, supporting the idea that the star cluster formation was excited by the dynamical encounters between these two galaxies. We have discovered faint fuzzy clusters in M51 system. Faint fuzzy clusters are large and red star clusters with $R_{\text{eff}} > 7\text{pc}$ and $(V-I) > 1.0$. Interestingly, these faint fuzzy clusters exhibit an elongated spatial distribution, while the normal compact red clusters show a relatively uniform distribution in the entire field of M51. We suggest that at least some faint fuzzy clusters are associated with the tidal debris in the western halo of NGC 5195.

[구ST-04] **HST/ACS Survey of Star Clusters in the Starburst Galaxy M82**

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We present a study of star clusters in the starburst galaxy M82 using the BVI band mosaic images taken with the Hubble Space Telescope (HST) Advanced Camera for Surveys (ACS). We have selected approximately 500 clusters with $V \leq 23$ based on their morphological information. The star clusters in M82 are mostly distributed on the galaxy disk, while some clusters exhibit rather widespread distribution, implying that these clusters may belong to the halo of M82. The color-magnitude diagrams of star clusters suggest that numerous star clusters are highly reddened. We have also derived the age of star clusters using the Spectral Energy Distribution (SED) fitting method. We will discuss the age distribution as well as the photometric properties of star clusters in M82.