

Title: Resolving starforming regions in distant galaxies: Blue Spheroid Candidates out at $z < 1$.
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Blue Spheroid Candidates (BSCs) are galaxies which morphologically resemble early-type galaxies, but have blue colors. If they are post-merger systems that evolve into present-day spheroids, the study of their mass and stellar contents can teach us the accretion/star formation history of spheroids, and possibly leads us to important clues for the hierarchical formation of galaxies.

We identify 10 BSCs from the DEEP Groth Strip Survey, and study them in detail using Keck spectra and HST images. Our Keck spectra show that velocity dispersions of their emission lines are about $\sigma < 80$ km/sec. If the σ value and their small size reflect the mass of the BSC as a whole, BSCs are likely to be low mass system ($M_{\text{solar}} < 10^{10}$). On the other hand, six out of the 10 BSCs appear to have blue localized starforming regions on top of underlying old, red stellar population. Therefore, the emission line width may be telling us only about the mass of the blue compact region. Using an independent method, we find that the mass of the red underlying region is low, too.

However, precise estimate of the kinematic mass of the BSCs is very challenging due to the small size of the object and the lack of the spatially resolved spectra. Getting such information requires a large, optical space telescope, or future AO observation with a large telescope in optical wavelength.