

SF2A 2025 conference abstract:

Title: Searching for successors: The fate of Little Red Dots at $z < 4$.

The James Webb Space Telescope (JWST) has made it possible to discover a very puzzling type of galaxy: a large population of red and compact objects known as "Little Red Dots" (LRDs). To date, this population remains poorly understood due to its varied features, including a V-shaped spectral energy distribution (SED), broad emission lines, and an extremely compact morphology. Another puzzling phenomenon regarding this population is the significant decline observed in their number density at ($z < 4$). Throughout this talk, we will investigate their potential successors.

Using NIRCam data in the CEERS field of view, we selected a sample of 100 galaxies that are very similar to LRDs but at lower redshifts. They share common features such as mass, central stellar density, color, number density and compactness. One major difference is that this sample exhibits an outskirt that appears to grow with decreasing redshift, suggesting a possible evolution over cosmic time and that these galaxies may be the elusive descendants of LRDs. A correlation between the growing outskirt and the presence of the V-shape is observed, which could potentially provide insights into the true nature of LRDs and explain their disappearance at low z .