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Understanding the role of young star formation and feedback in the Lyman photon escape of low-redshift analogs of reionization galaxies with MAVIS

Compact UV-luminous galaxies showing extreme emission-line properties, such as the "Green Pea"(GP) galaxies at z~0.1-0.4, are possibly the best low-redshift analogs of primeval galaxies driving reionization in the early universe. The direct detection of Lyman continuum (LyC) photons in most GPs observed with HST-COS in the far-UV has opened a wide new avenue to study the main physical processes governing the escape of ionizing photons from galaxies with properties closely resembling those expected in high-redshift star-forming galaxies. This contribution will show recent efforts aimed at resolving the complex ionized gas kinematics of GPs from high-dispersion long-slit and IFU spectra. These studies show the presence of strongly turbulent ISM and significant gas outflows, which can be used to constrain feedback models and provide new insight into the complex interplay between massive star formation, the ISM physical properties (ionization, densities, temperatures) and enrichment, and the escape of ionizing radiation. We will discuss how MAVIS can provide a powerful tool for such chemodynamical studies of GPs and other Lyman continuum emitters.

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