

Insights into the high redshift Universe from cosmic noon studies of CIII] and CIV (Andra Stroe)

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While traditionally associated with AGN, the properties of the rest-frame UV CIII] and CIV emission lines are still uncertain as large, unbiased samples of sources are scarce. Recently, CIII] and CIV emission lines have been observed in galaxies in the early Universe ($z > 5$) and have been proposed as the prime way of measuring their redshift and studying their stellar populations. I will present results from the first blind, statistical CIII] and CIV survey at the cosmic noon. By using a multiwavelength approach, we find that CIII] emitters at $z \sim 1.05$ trace a general population of star-forming galaxies, with an UV beta slope of ~ -0.8 , a variety of optical morphologies, including isolated and interacting galaxies, and low black hole accretion rates, indicating very low AGN activity. Our CIV emitters at $z \sim 1.5$ are consistent with young, blue quasars ($\beta - 1.9$) with point-like optical morphologies, bright X-ray counterparts and large black hole accretion rates. We also find some surprising CIII] and CIV emitters with extreme rest-frame equivalent widths, as large as 50 – 100 Angstrom. We predict that the CIII] and CIV lines can only be truly competitive in confirming high redshift candidates in the JWST era when the hosts are intrinsically bright and the effective Ly α escape fraction is below 1 per cent.

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