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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 accertion 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 Lyα escape fraction is below 1 per cent.

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