

Seminarium Astrofizyczne

Tuesday, 18th March, 12:30

ul. Pasteura 7, sala 404

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Password: AstroSemi

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Merging Signatures in an Offset Lyman Continuum Emitter at Redshift 3.8

In this talk, I will present our study on Lyman continuum (LyC) emitters at $z > 3$, focusing on their spatial offsets and the role of galaxy mergers in LyC photon escape. We collected a sample of $z > 3$ LyC emitters, of which a dominant fraction ($\sim 60\% - 70\%$) show spatial offsets between LyC emission and the non-ionizing continuum. Among these, we highlight the case of CDFS-6664 ($z = 3.797$), a galaxy with two distinct components observed in high-resolution Hubble Space Telescope and James Webb Space Telescope images. Our analysis reveals that CDFS-6664 is a major merger system with enhanced star formation in both components. The offset LyC emission is most likely associated with the bluer, younger component, suggesting that the merger drives the observed offset. This finding provides a compelling example of how galaxy mergers can facilitate LyC photon escape. Future observations of more offset LyC emitters will help elucidate the role of mergers in this process.

Serdecznie zapraszam,
Aidan Cotter, on behalf of the SOC