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The realm of hyperluminous quasars

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We are performing a systematic study of the the X-ray properties of the most luminous ($L_{bol} > 10^{47}$ erg/s) quasars in the Universe spanning from optical- NIR- MIR-selected sources at z=2-3. These AGN exhibit widespread outflow signatures at all scales and they are the sources where we expect quasar feedback to manifests in full force. Hence they are in a transit phase, predicted in quasar merger-driven evolutionary scenarios, where powerful winds sweep out the obscuring-dust and leads to optically bright quasars. Our study aim at investigating the link between nuclear energetic output and the acceleration of winds. We find a mixture of unobscured and obscured sources with column density values reaching ~10^24 cm-2. Given the high Eddington ratio this is indicative that the nuclear regions in most of these systems are in the blow-out phase. Furthermore we discover that, despite the similarly high bolometric luminosity, the coronal X-ray radiative output varies by 1.5 dex and anti-correlate with the broad line region wind velocity. This evidence points to a link between the presence of winds and the nuclear radiative output.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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