Extremely Red Quasars and JWST Early Release Science

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Quasars with red colours, due to either heavy UV/optical obscuration or very high redshift, will be critical and ideal targets for the James Webb Space Telescope.

Here, I present the discovery of a new type of quasar, with “extremely red” colours, r - 22um > 14, which have been identified using photometry from the WISE mid-infrared satellite mission and the SDSS-I/II and SDSS-III BOSS Quasar Surveys.

Our initial analysis suggests these extremely red quasars are `Type 2’ AGN at z>2, often with very strong outflows and/or strange central engine geometries. Ongoing investigations suggest these objects may also be heavily star-forming.

A second aspect of quasars with extremely red colours are those at very high, z>7 redshift. Here we’d liked to raise the issue of how these very high redshift QSOs will be selected from current, and future imaging surveys in a timely manner for JWST observations.

Finally, an initial discussion as to the priorities for the JWST Early Release Science case will be suggested and presented.