

Catching supermassive black holes with Rubin-LSST: Towards novel insights and discoveries into AGN science

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Capturing quasar mergers from HSC to LSST

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The interaction of galaxies play an important role in fueling the SMBHs and accelerating their growth. In this presentation, I will first introduce the techniques that we have used to identify mergers in HSC images, namely, the morphological asymmetry parameter. With over 2400 type 1 quasars between $0.2 < z < 0.8$, we found that only the brightest quasars ($\log L_{\text{bol}} > 44.5$ erg/s) have an excess of merger ratio compared to inactive galaxies at the same stellar mass and redshift. My presentation will also cover a special phase of quasar mergers when both of the SMBHs are activated simultaneously, thus form a dual quasar. We have been running a five-year program searching for dual quasars in HSC footprint, and multi-wavelength follow-ups to study the properties of the confirmed pairs. Both projects will be significantly extended in the LSST era, I will discuss about the scientific questions we expect to learn from these quasar mergers.

Funding request, please specify

I am a 1st-year postdoc researcher and only has limited access to funding. Therefore, I would like to ask for support on my accommodation during the conference.

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