

Invited Lecture

OBSCURED AGN AT THE COSMIC NOON

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Most bulge-dominated galaxies host black holes (BH) with masses that tightly correlate with the masses of their bulges. The quest to understand how, when, and where those BH formed motivates much of extragalactic astronomy. One population of galaxies with active BH in their nuclei (active galactic nuclei or AGN) that are fully or partially hidden by dust and gas, may hold the key with which to unlock this puzzle. Recent studies show that the luminosity functions of obscured and non-obscured AGN differ. Also, the most luminous, and dustiest of quasars are major mergers and are the most reddened by dust.

Those tantalizing discoveries point the way forward for the next decade. We can target obscured quasars to get a statistically sound handle on their demographics using photometry X-ray through radio alone. The next generation of X-ray, radio, and IR wide field/all-sky surveys, the Nancy Grace Roman Mission, and the Vera Rubin Observatory’s Legacy Survey of Space and Time must be leveraged by efficient (i.e., sensitive/wide aperture/highly multiplexed) spectroscopic surveys in the optical and NIR. In this talk, I will emphasize the need for optical-NIR surveys (e.g., with the Maunakea Spectroscopic Explorer) to study the reddening properties, star-formation histories, and excitation conditions in obscured AGN. These critical studies will shed light on the role of black holes in galaxy evolution during the epoch of peak growth activity.