

Probing the Genesis of Supermassive Black Holes: Emerging Perspectives from JWST and Expectation toward New Wide-Field Survey Observations

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Search for high- z AGN in the era of JWST in the JADES survey

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Detection of supermassive black hole seeds and the first AGNs in the Universe are some of the key questions at the frontier of galaxy evolution. With the launch of JWST, we are now able to observe the rest-frame optical and UV lines at $z > 8$. These tracers are necessary to detect emission coming from these first AGNs in the Universe, constraining the theoretical models on the origin of supermassive black holes and role of AGN in galaxy evolution in general and re-ionisation in particular. The latest results, showed that black holes and galaxies have evolved much faster than initially thought, In the talk, I will present the results from our effort in the JADES and GA-NIFS surveys to describe the build up of black holes and their influence of their host galaxies using both deep spectroscopy and imaging. I will present our effort to identify both type-1 and type-2 AGN, their selection process, properties as well as their origin by pushing the detection of BH pass $z=11$.

Presenter: SCHOLTZ, Jan (Cambridge)