Populations of candidate black holes at redshift 7 or above

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Abstract. I will describe recent results on constructing samples of candidate active galactic nuclei (AGN) at or beyond redshift 7, probing several orders of magnitude fainter than the top end of the quasar luminosity function at redshift 6. These advances have been made possible by the advent of deep, wide multi-waveband surveys that enable the selection of samples of sources that are detected at radio or X-ray wavelengths but completely undetected at optical wavelengths to very deep limits. A variety of multi-band selection criteria are used to identify the high-redshift candidates and eliminate lower-redshift interlopers by means of extensive spectral energy distribution modelling. The resulting constraints on the numbers of high-redshift AGN at or above redshift 7 are used to examine the evolution of the AGN luminosity function at high redshift, and help understand the properties of the first supermassive black holes in the universe.

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