Comparison of FIR properties between BAL and non-BAL AGN

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Abstract

Using a sample of 600 quasars detected by the Sloan Digital Sky Survey (SDSS), as well as the Spectral Photometric Imaging Receiver (SPIRE) instrument of *Herschel*, we aim to describe the overall impact of an active nucleus on its host galaxy. We wish to better understand the onset of star formation and active galactic nuclei (AGN) activity, along with how the two phenomena affect one another over the history of the Universe.

To achieve this, we use a spectral energy distribution (SED) fitting technique to quantify the far-infrared emission of our objects, as this wavelength regime probes the cold dust heated by star formation in AGN hosts. As such, we can easily extract the star formation rates (SFRs) of these host galaxies from the output of the SED fit. Our sample includes 51 high-ionization broad absorption line quasars, which we study with particular care to ascertain whether the SFRs in their respective host galaxies deviate from those of the hosts of quasars that do not exhibit broad absorption lines in their spectra.