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Presentation Requested: oral
Category: Role of AGN in Galaxy Evolution in the ALMA Era
Question: How does the AGN fraction evolve with redshift and in what types of galaxies? What is the contribution of AGN to the bolometric luminosity and energy budget in galaxies over cosmic time? How can ALMA and other new facilities help address these questions?

Evolution of IR-selected AGN across cosmic time

Constraining the evolution of active galactic nuclei (AGN) across the cosmic time is essential to shed light on the formation and evolution of galaxies. Several studies, mostly X-ray based, have significantly improved our knowledge on the supermassive black hole (SMBH) growth. I will present recent and consistent estimates on the AGN evolution from an infrared perspective, as obtained from Herschel data.

For a huge sample of Herschel-selected galaxies (about 20000) in the GOODS-South and COS-MOS, a broad-band spectral energy distribution (SED) decomposition has been performed. For each individual galaxy SED the potential AGN content has been decoupled from that related to its host by means of a robust statistical approach. We found that IR-selected AGN are preferentially hosted in more star-forming galaxies and at higher (z >1) redshift. We used this analysis to constrain the cosmic growth of our IR-selected AGN population over cosmic time and to investigate the nature of such AGN population in both X-ray detected and not-detected galaxies.