Localising the star formation in high redshift radio galaxies

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Abstract

The HeRGÉ (*Herschel* Radio Galaxy Evolution) project consists of a representative sample of 70 powerful radio galaxies (HzRGs) spanning $1<z<5.2$. A combination of *Spitzer*, *Herschel* and submm observations allowed for a characterisation of their IR SED into a AGN and a starburst component. Interestingly, HzRGs simultaneously exhibit properties common to QSOs and SMGs at similar redshift. While the limited resolution of single dish observation does not provide information on the location and the origin of the star formation, UV to submm fitting with advanced models (AGN torus and PÉGASE, a galaxy evolutionary code) indicates that the observed starburst does not take necessarily place into the galaxy. More evidences for this scenario appears thanks to our recent ALMA cycle 2 observations.