

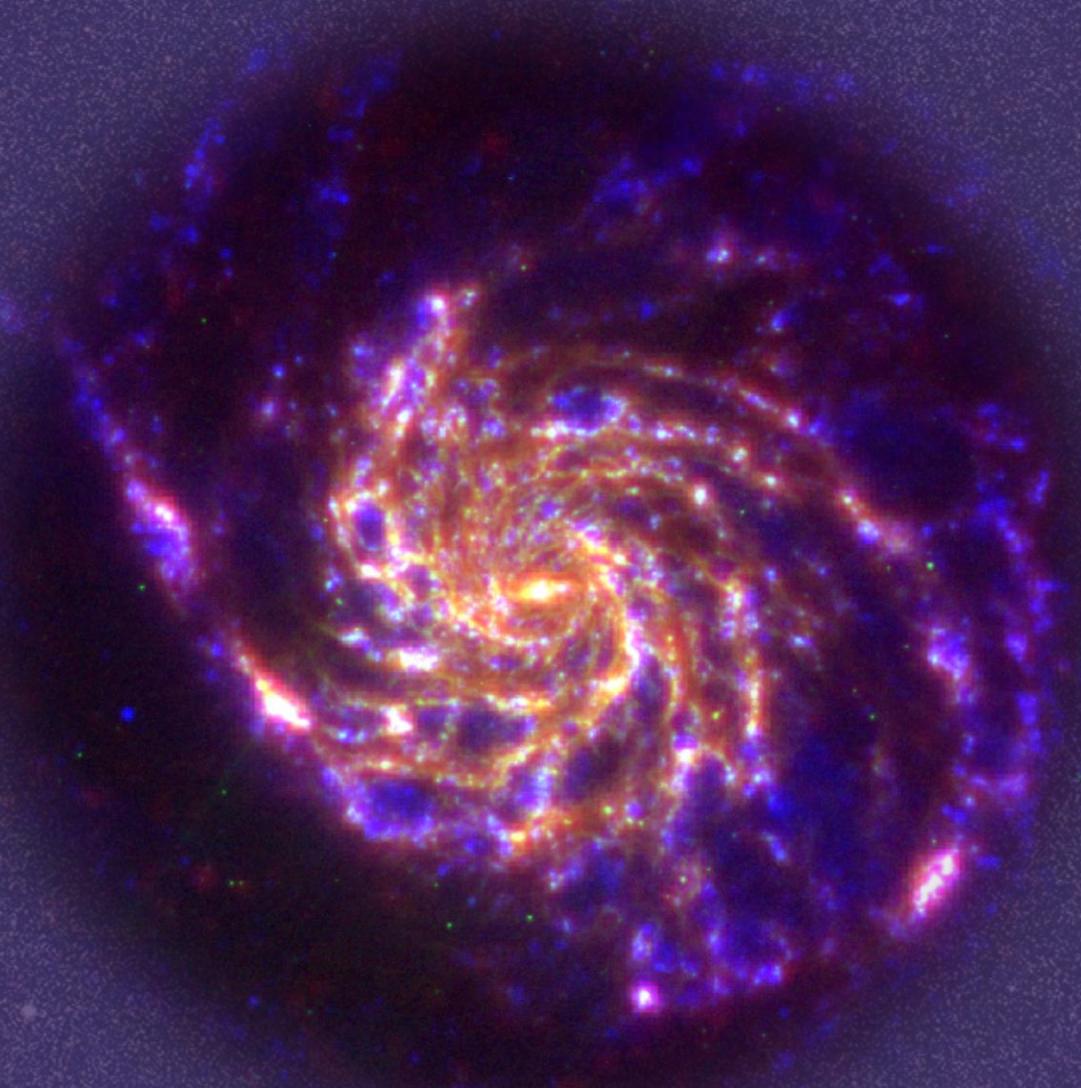


Christopher Clark,
Sam Verstocken, Simone Bianchi,
and the DustPedia team
Christopher.Clark@astro.cf.ac.uk

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DustPedia

DustPedia: Multiwavelength Photometry & Imagery of 875 Nearby Galaxies in 42 Bands



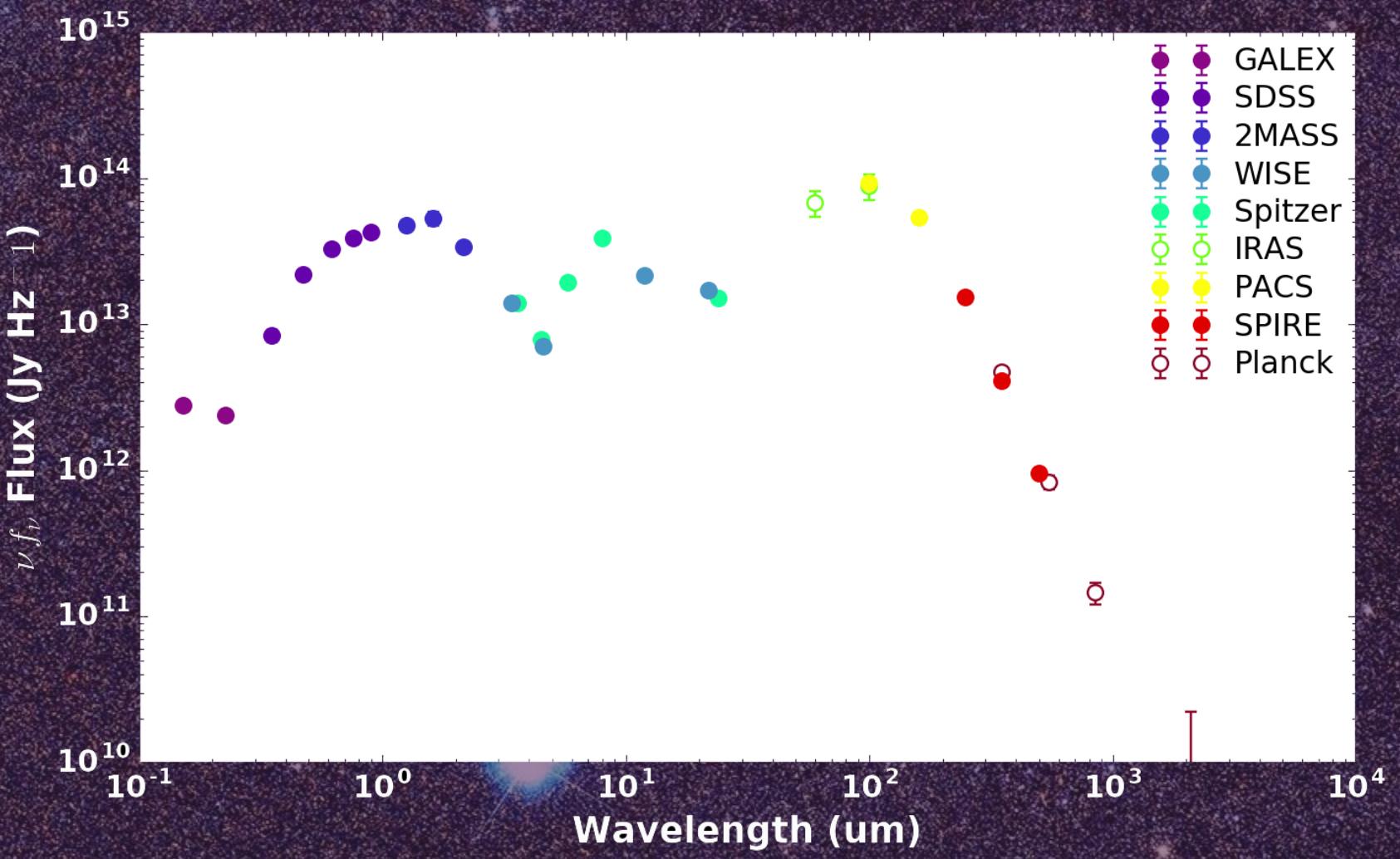
We present multiwavelength imagery and photometry across 42 UV–microwave bands for 875 nearby galaxies. This database contains custom *Herschel* reductions, plus standardised GALEX, SDSS, DSS, 2MASS, WISE, *Spitzer*, and *Planck* data. We also present CAAPR, the pipeline we use to conduct aperture-matched photometry of our data; CAAPR is designed to produce consistent photometry for the enormous range of galaxy and observation types we employ. The 27-band aperture-matched photometry, in combination with ancillary catalogue data from IRAS and *Planck*, represents 21857 photometric measurements. This rich database of imagery and photometry is being made publicly available at: dustpedia.astro.noa.gr

The DustPedia sample contains every extended ($>1'$) galaxy within 3000 km s^{-1} (~40 Mpc) that was observed by the *Herschel* Space Observatory, excluding only the most extended Local Group galaxies.

The DustPedia imagery database is centred around our custom *Herschel* reductions, produced using the most up-to-date calibrations, combining all available *Herschel* data for each galaxy in the sample.

Our multiwavelength ancillary imagery was assembled from the archives of GALEX, SDSS, DSS, 2MASS, WISE, *Spitzer*, and *Planck*. We combine all available data in each band, and the resulting FITS files are standardised to use consistent orientations, map sizes, header formats, and pixel units of Jy pix $^{-1}$.

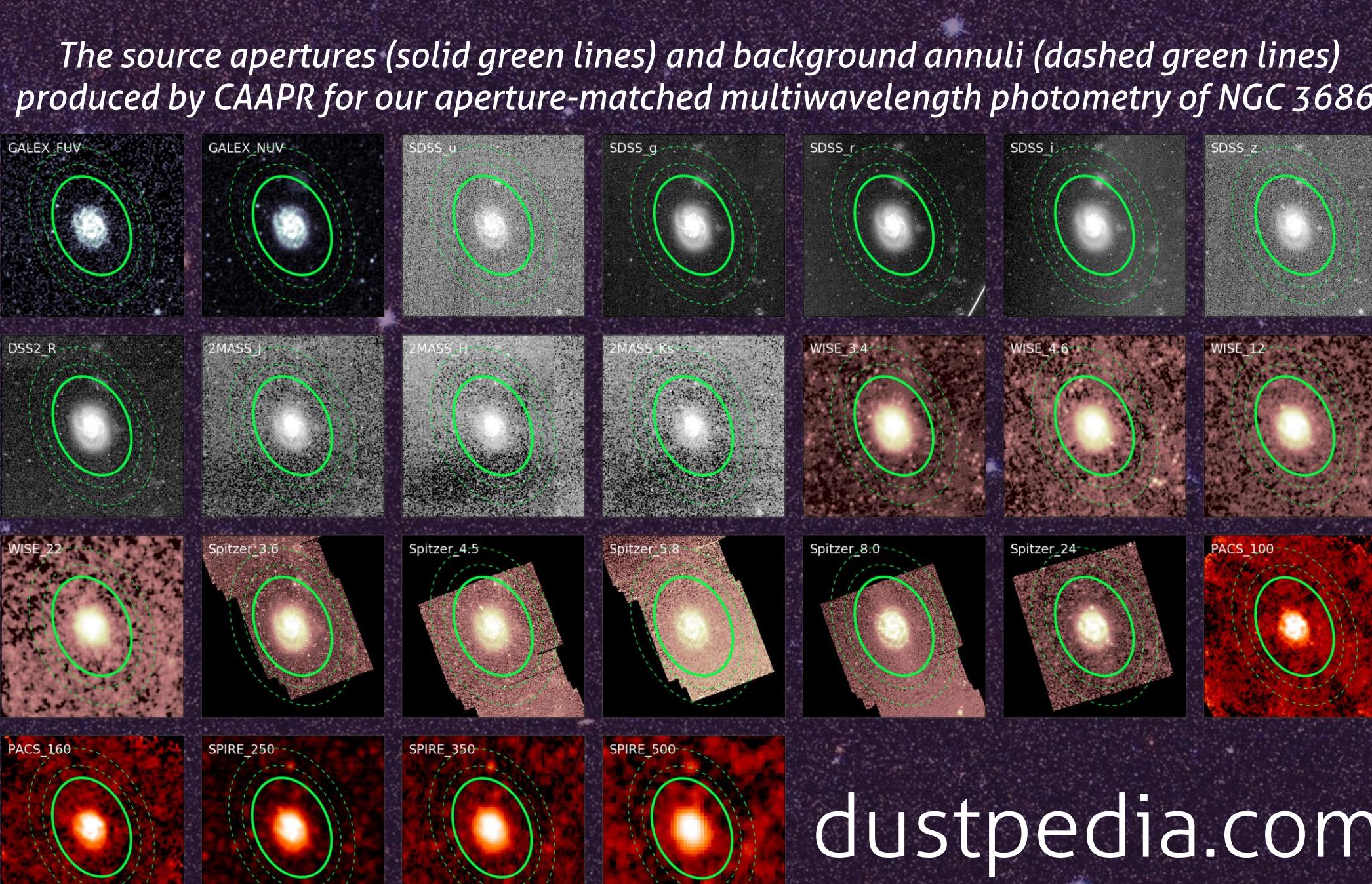
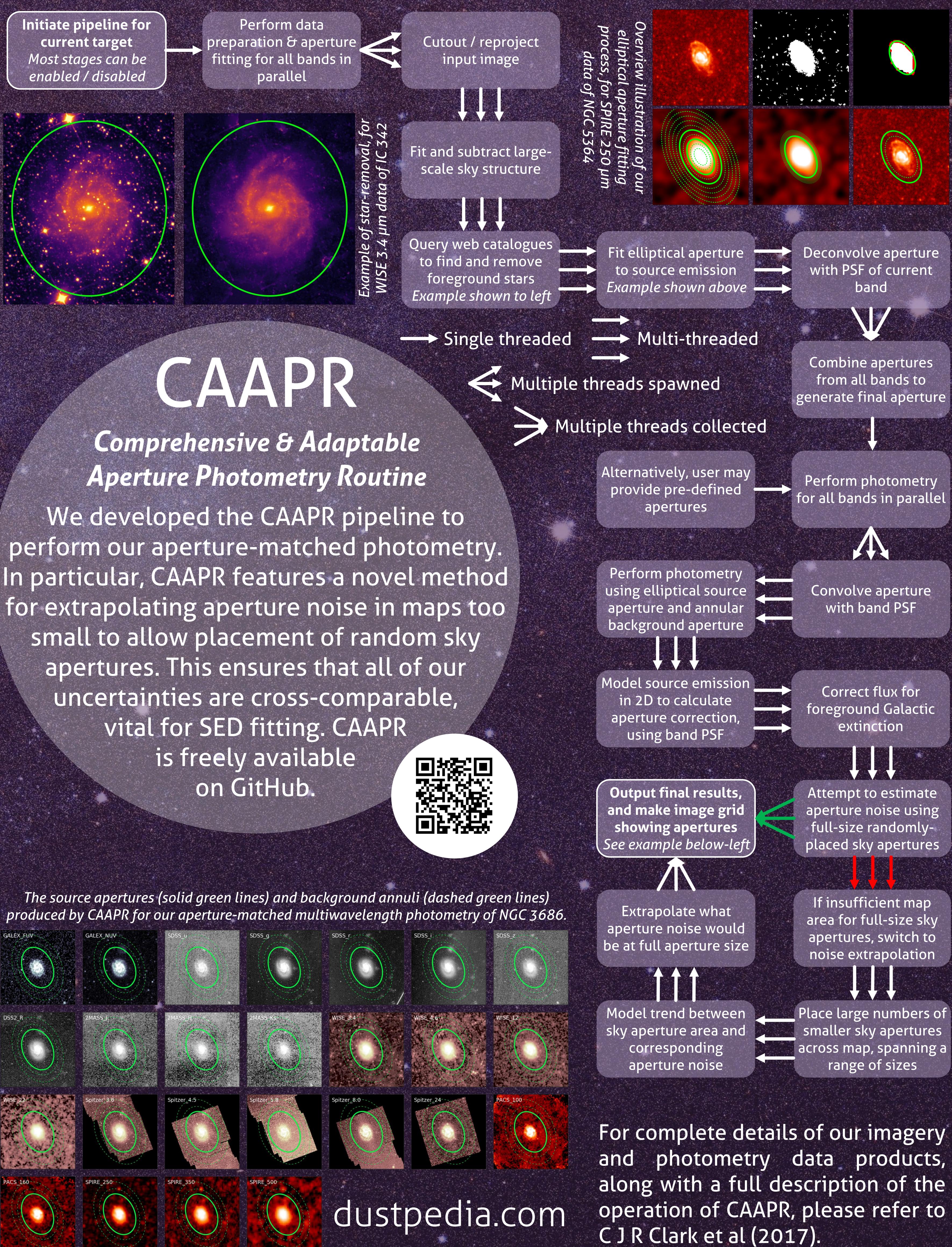
This database is being made publicly available, and we anticipate that it will continue to expand as more data is added.



Multiwavelength SED of NGC 3686, illustrating the rich photometric coverage possible in DustPedia. Solid circles show our aperture-matched CAAPR fluxes; hollow circles show supplementary fluxes.

The DustPedia photometry database contains the outputs of the 27-band aperture-matched photometry performed by CAAPR. We also provide supplementary photometry for IRAS and *Planck*, taken from existing datasets. All outputs have undergone manual inspection and flagging for a range of potential issues.

In total, we present 21857 photometric measurements for our 875 galaxies. A typical DustPedia galaxy has multiwavelength photometry spanning 25 bands. An example SED is shown above.



For complete details of our imagery and photometry data products, along with a full description of the operation of CAAPR, please refer to CJR Clark et al (2017).