

The catalogue has been created to mimic 5deg2 of the OST FIP Medium survey.  
Based on the master catalogue v1.02 (version of the accepted paper)

Area=5 deg2

Detections: ( $5\sigma$ ) in - 40  $\mu$ Jy at 50 $\mu$ m  
- 1 mJy at 250 $\mu$ m

A detected galaxy has at least one filter with S/N>3

Sky distribution obtained from the angular two-point correlation function with slope 0.7

Torus library contains both smooth and clumpy torus

Galaxies are obtained from the LF of Gruppioni+2013 and the template frequency is considered in bin of z and LIR. In the bright-end we use templates with the faintest K-band magnitudes, at similar LIR, while in the faint-end we use templates with the brightest UV flux, at similar LIR. We include K-band LF for elliptical and GSMF for Irregular.

The number after po in the catalogue name indicates the power-law slope of the extrapolation at  $z>3$ .

See Bisigello et al. 2021. for more details.

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Mock\_cat\_physparam\_OST\_1\_po-\*\_2p.fits

1. ID: sequential ID
2. ID0: original ID, every galaxy in the same z-LIR bin has the same ID0
3. RA: right ascension [arcsec] (not present, if you need spatial distribution ask)
4. DEC: declination [arcsec] (not present, if you need spatial distribution ask)
5. z: redshift
6. LIR: total IR luminosity in log scale. [solar luminosity]
7. SED\_ttyp: 0=SPIRAL, 1=SB, 2=SF-AGN, 3=SB-AGN, 4=AGN1, 5=AGN2, 6=Elliptical, 7=Irregular
8. SED\_number: SED number in the original list. 0-35 smooth torus, 40-72 clumpy torus
9. M: stellar mass in log scale. [solar mass]
10. LIR\_SF: part of the IR luminosity associated to SF in log scale. [solar luminosity]
11. SFR\_IR: obscured SFR [Mo/yr]
12. SFR\_UV: unobscured SFR [Mo/yr]
13. LIR\_AGN: part of the IR luminosity associated to the AGN in log scale. [solar luminosity]
14. L\_2\_10keV: intrinsic X-ray luminosity due to the AGN in log scale. [cgs]
15. L\_2\_10keV\_obs: observed X-ray luminosity due to the AGN in log scale. [cgs]
16. NH: hydrogen column density in log scale [cm<sup>-2</sup>]
17. LACC\_AGN: accretion luminosity of the AGN in log scale [solar luminosity]

18. LBOL\_AGN: bolometric luminosity of the AGN in log scale [solar luminosity]
19. Log10N: number of object of similar type (same ID0) expected in the survey
20. L\_150MHz: luminosity at 150MHz in log scale. [solar luminosity]
21. L\_1\_4GHz: luminosity at 1.4GHz in log scale. [solar luminosity]
22. logM\_DM: dark-matter mass in log scale. [solar mass] (not present, empty column)
23. 12logOH\_W: metallicity
24. Av: optical depth
25. mu: ratio between the V-band optical depth due to the ISM and due to the birth clouds  
 $Tv\_ISM/(Tv\_ISM+Tv\_BC)$  (Charlot & Fall 2000)
26. OST\_50um: flux of the filter centered at 50  $\mu m$  [microJasky]
27. errOST\_50um: flux error of the filter centered at 50  $\mu m$  [microJasky]
28. OST\_250um: flux of the filter centered at 250  $\mu m$  [microJasky]
29. errOST\_250um: flux error of the filter centered at 250  $\mu m$  [microJasky]