ASTRODEEP Frontier Fields Catalogues of MACS0717 and MAC1149

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The catalogues will be described in Di Criscienzo et al. 2017 in preparation

In all the catalogues the IDs are organized as follows:

- H-detected objects have IDs starting from 1;
- IR-detected objects have IDs starting from 20000;
- the bright cluster objects, modeled and subtracted from the HST images, have IDs starting with 100000.

1 Officially released catalogues

The format of the release catalogues is as follows.

1.1 Photometric Catalogue A - magnitudes

In the first catalogue we list IDs, position, AB magnitudes and relative uncertainties, in the ten considered bands. The format is therefore
`ID RA DEC X Y MAG_B435 MAG_V606 MAG_I814 MAG_Y105 MAG_J125 MAG_JH140 MAG_H160 MAG_Ks MAG_IRAC1 MAG_IRAC2 MAGERR_B435 MAGERR_V606 MAGERR_I814 MAGERR_Y105 MAGERR_J125 MAGERR_JH140 MAGERR_H160 MAGERR_Ks MAGERR_IRAC1 MAGERR_IRAC2`.

1.2 Photometric Catalogue B - fluxes

A second catalogue contains IDs, position,, fluxes and uncertainties of the fluxes (μJy). The format is
`ID RA DEC FLUX_B435 FLUX_V606 FLUX_I814 FLUX_Y105 FLUX_J125 FLUX_JH140 FLUX_H160 FLUX_Ks FLUX_IRAC1 FLUX_IRAC2 FLUXERR_B435 FLUXERR_V606 FLUXERR_I814 FLUXERR_Y105 FLUXERR_J125 FLUXERR_JH140 FLUXERR_H160 FLUXERR_Ks FLUXERR_IRAC1 FLUXERR_IRAC2`.

1.3 Photo-z Catalogue - redshifts

Photometric redshift catalogues contain the following information :

- `ID`: identification number in the input photometric catalogues.
- `ZBEST`: corresponds to the reference (median) photo-z value except when a match with a publicly available high-quality spectroscopic source is found within 1 arcsec.
- `ZBEST_SIQR`: median photometric redshift uncertainty range (equal to = for spectroscopic sources)
- `ZSPEC_SIQR`: spectroscopic redshift when available (The value is -1 for sources with no spectroscopic counterpart).
- `MAGNIF`: median magnification (cluster fields), or magnification from the Merten model (parallel fields).
- `ZSPECFLAG`: the value is set =1 for sources with spectroscopic redshift, =0 otherwise.
- `Chi2`: χ^2 of the SED fitting with stellar only templates at redshift fixed to ZBEST.
- `MSTAR`, `MSTAR_MIN`, `MSTAR_MAX`: stellar mass in units of $10^9 M_\odot$ (assuming Salpeter IMF) and relevant uncertainty range. Uncertainties on physical parameters are defined from the range where P(χ^2)>32% estimated in a Δz=0.2 redshift bin around the reference photometric redshift.
- `SFR`, `SFR_MIN`, `SFR_MAX`: star-formation rate ($M_\odot/yr$) and relevant uncertainty range.
- `Chi2_NEB`: χ^2 of the SED fitting with stellar plus nebular models at redshift fixed to ZBEST.
- `MSTAR_NEB`, `MSTAR_MIN_NEB`, `MSTAR_MAX_NEB`: stellar mass ($10^9 M_\odot$) estimated from stellar plus nebular fits.
- `SFR_NEB`, `SFR_MIN_NEB`, `SFR_MAX_NEB`: star-formation rate ($M_\odot/yr$) estimated from the stellar plus nebular fits.
- `RELFLAG`: This flag is meant to provide a combined indication of the robustness of photometric and photo-z estimates. Sources with `RELFLAG`=1 have enough reliable photometric information for estimating photometric-redshifts. Instead, the value is =0 for sources either: falling close to the border of the images; close to strong residual features of the Galfit image pre-processing; found to be spurious (mostly stellar spikes) from visual inspection; having SExtractor `FLAG`¿=16; having unphysical flux in the detection band; having less than 5 HST bands with reliable flux measurement available for photo-z procedures.