The CANDELS-UDS Multiwavelength catalog
Galametz et al. 2013
ReadMe -

* Data:

- u	CFHT/MegaCam (Almaini et al. in prep.)
- B, V, Rc, i', z'	Subaru/Suprime-Cam (SXDS; Furusawa et al. 2008, ApJS 176, 1)
- F606W, F814W	*HST*/ACS (CANDELS; Koekemoer, A. M. et al. 2011, ApJS 197, 36)
- F125W, F160W	*HST*/WFC3 (CANDELS; Koekemoer, A. M. et al. 2011, ApJS 197, 36)
- Y, Ks	VLT/HAWK-I (HUGS; Fontana et al. in prep.)
- J, H, K	WFCAM/UKIRT (UKIDSS Data Release 8; Almaini et al. in prep.)
- 3.6, 4.5μm	*Spitzer*/IRAC (SEDS; Ashby et al. 2013, in press)
- 5.8, 8.0μm	*Spitzer*/IRAC (SpUDS)

* Column description:

# 1 ID	Identification number of the source (1)
# 2 IAU designation	
# 3 R.A. (deg)	Right Ascension (J2000) (1)
# 4 Dec. (deg)	Declination (J2000) (1)
# 5 Flag	Flag (2)
# 6 Class_star	Class_star SExtractor parameter (1)

********** Photometry **********

# 7 Flux_u_cfht	Flux density (in μJy) in the u-band (CFHT/MegaCam) (3)
# 8 Fluxerr_u_cfht	Flux uncertainty (in μJy) in the u-band (CFHT/MegaCam) (3)
# 9 Flux_B_subaru	Flux density (in μJy) in the B-band (Subaru/Suprime-Cam) (3)
# 10 Fluxerr_B_subaru	Flux uncertainty (in μJy) in the B-band (Subaru/Suprime-Cam) (3)
# 11 Flux_V_subaru	Flux density (in μJy) in the V-band (Subaru/Suprime-Cam) (3)
# 12 Fluxerr_V_subaru	Flux uncertainty (in μJy) in the V-band (Subaru/Suprime-Cam) (3)
# 13 Flux_Rc_subaru	Flux density (in μJy) in the Rc-band (Subaru/Suprime-Cam) (3)
# 14 Fluxerr_Rc_subaru	Flux uncertainty (in μJy) in the Rc-band (Subaru/Suprime-Cam) (3)
# 15 Flux_i'_subaru	Flux density (in μJy) in the i'-band (Subaru/Suprime-Cam) (3)
# 16 Fluxerr_i'_subaru	Flux uncertainty (in μJy) in the i'-band (Subaru/Suprime-Cam) (3)
# 17 Flux_z'_subaru	Flux density (in μJy) in the z'-band (Subaru/Suprime-Cam) (3)
# 18 Fluxerr_z'_subaru	Flux uncertainty (in μJy) in the z'-band (Subaru/Suprime-Cam) (3)
# 19 Flux_F606W_hst	Flux density (in μJy) in the F606W-band (*HST*/ACS) (3)
# 20 Fluxerr_F606W_hst	Flux uncertainty (in μJy) in the F606W-band (*HST*/ACS) (3)
# 21 Flux_F814W_hst	Flux density (in μJy) in the F814W-band (*HST*/ACS) (3)
# 22 Fluxerr_F814W_hst	Flux uncertainty (in μJy) in the F814W-band (*HST*/ACS) (3)

# 23 Flux_F125W_hst	Flux density (in μJy) in the F125W-band (*HST*/WFC3) (3)
# 24 Fluxerr_F125W_hst	Flux uncertainty (in μJy) in the F125W-band (*HST*/WFC3) (3)
# 25 Flux_F160W_hst	Flux density (in μJy) in the F160W-band (*HST*/WFC3) (3)
# 26 Fluxerr_F160W_hst	Flux uncertainty (in μJy) in the F160W-band (*HST*/WFC3) (3)
# 27 Flux_Y_hawki	Flux density (in μJy) in the Y-band (VLT/HAWK-I) (3)
# 28 Fluxerr_Y_hawki	Flux uncertainty (in μJy) in the Y-band (VLT/HAWK-I) (3)
# 29 Flux_Ks_hawki	Flux density (in μJy) in the Ks-band (VLT/HAWK-I) (3)
# 30 Fluxerr_Ks_hawki	Flux uncertainty (in μJy) in the Ks-band (VLT/HAWK-I) (3)
# 31 Flux_J_ukidss DR8	Flux density (in μJy) in the J-band (UKIRT/WFCAM) (3)
# 32 Fluxerr_J_ukidss DR8	Flux uncertainty (in μJy) in the J-band (UKIRT/WFCAM) (3)
# 33 Flux_H_ukidss DR8	Flux density (in μJy) in the H-band (UKIRT/WFCAM) (3)
# 34 Fluxerr_H_ukidss DR8	Flux uncertainty (in μJy) in the H-band (UKIRT/WFCAM) (3)
# 35 Flux_K_ukidss DR8	Flux density (in μJy) in the K-band (UKIRT/WFCAM) (3)
# 36 Fluxerr_K_ukidss DR8	Flux uncertainty (in μJy) in the K-band (UKIRT/WFCAM) (3)
# 37 Flux_ch1_seds	Flux density (in μJy) in the 3.6μm-band (*Spitzer*/IRAC) (3)
# 38 Fluxerr_ch1_seds	Flux uncertainty (in μJy) in the 3.6μm-band (*Spitzer*/IRAC) (3)
# 39 Flux_ch2_seds	Flux density (in μJy) in the 4.5μm-band (*Spitzer*/IRAC) (3)
# 40 Fluxerr_ch2_seds	Flux uncertainty (in μJy) in the 4.5μm-band (*Spitzer*/IRAC) (3)
# 41 Flux_ch3_spuds	Flux density (in μJy) in the 5.8μm-band (*Spitzer*/IRAC) (3)
# 42 Fluxerr_ch3_spuds	Flux uncertainty (in μJy) in the 5.8μm-band (*Spitzer*/IRAC) (3)
# 43 Flux_ch4_spuds	Flux density (in μJy) in the 8.0μm-band (*Spitzer*/IRAC) (3)
# 44 Fluxerr_ch4_spuds	Flux uncertainty (in μJy) in the 8.0μm-band (*Spitzer*/IRAC) (3)
# 45 Spectroscopic redshift	Spectroscopic redshift if available (`-99' otherwise)
# 46 Reference	Origin of the spectroscopic redshift when available (`-99' otherwise) (4)

********** Limiting magnitudes & Covariance Indexes **********

# 47 Limiting_Magnitude_u	Limiting magnitude at the source position in u (AB) (5)
# 48 Limiting_Magnitude_B	Limiting magnitude at the source position in B (AB) (5)
# 49 Limiting_Magnitude_V	Limiting magnitude at the source position in V (AB) (5)
# 50 Limiting_Magnitude_Rc	Limiting magnitude at the source position in Rc (AB) (5)
# 51 Limiting_Magnitude_i	Limiting magnitude at the source position in i' (AB) (5)
# 52 Limiting_Magnitude_z	Limiting magnitude at the source position in z' (AB) (5)
# 53 Limiting_Magnitude_f606w	Limiting magnitude at the source position in f606w (AB) (5)
# 54 Limiting_Magnitude_f814w	Limiting magnitude at the source position in f814w (AB) (5)
# 55 Limiting_Magnitude_f125w	Limiting magnitude at the source position in f125w (AB) (5)
# 56 Limiting_Magnitude_f160w	Limiting magnitude at the source position in f160w (AB) (5)
# 57 Limiting_Magnitude_Yhawki	Limiting magnitude at the source position in Y (AB) (5)
# 58 Limiting_Magnitude_Khawki	Limiting magnitude at the source position in Ks (AB) – HAWK-I (5)
# 59 Limiting_Magnitude_DR8J	Limiting magnitude at the source position in J (AB) (5)
# 60 Limiting_Magnitude_DR8H	Limiting magnitude at the source position in H (AB) (5)
# 61 Limiting_Magnitude_DR8K	Limiting magnitude at the source position in K (AB) – UKIRT (5)
# 62 Limiting_Magnitude_irac1	Limiting magnitude at the source position in IRAC/channel1 (AB) (5)
# 63 Limiting_Magnitude_irac2	Limiting magnitude at the source position in IRAC/channel2 (AB) (5)
# 64 Limiting_Magnitude_irac3	Limiting magnitude at the source position in IRAC/channel3 (AB) (5)
# 65 Limiting_Magnitude_irac4	Limiting magnitude at the source position in IRAC/channel4 (AB) (5)

66 Covariance_u Maximum covariance index in u
67 Covariance_B Maximum covariance index in B
68 Covariance_V Maximum covariance index in V
69 Covariance_Rc Maximum covariance index in Rc
70 Covariance_i Maximum covariance index in i'
71 Covariance_z Maximum covariance index in z'
72 Covariance_Yhawki Maximum covariance index in HAWK-I Y
73 Covariance_Khawki Maximum covariance index in HAWK-I Ks
74 Covariance_DR8J Maximum covariance index in J DR8
75 Covariance_DR8H Maximum covariance index in H DR8
76 Covariance_DR8K Maximum covariance index in K DR8
77 Covariance_irac1 Maximum covariance index in IRAC/channel1
78 Covariance_irac2 Maximum covariance index in IRAC/channel2
79 Covariance_irac3 Maximum covariance index in IRAC/channel3
80 Covariance_irac4 Maximum covariance index in IRAC/channel4

********** SExtractor parameters derived from the CANDELS HST data **********

81 x_image Object position along x (pixel)
82 y_image Object position along y (pixel)
83 xpeak_image X-coordinate of the brightest pixel (pixel)
84 ypeak_image Y-coordinate of the brightest pixel (pixel)
85 xmin_image Minimum x-coordinate among detected pixels (pixel)
86 xmax_image Maximum x-coordinate among detected pixels (pixel)
87 ymin_image Minimum y-coordinate among detected pixels (pixel)
88 ymax_image Maximum y-coordinate among detected pixels (pixel)
89 x2_image Variance along x (pixel^2)
90 y2_image Variance along y (pixel^2)
91 xy_image Covariance between x and y (pixel^2)
92 cxx_image Cxx ellipse parameter (pixel^-2)
93 cyy_image Cyy ellipse parameter (pixel^-2)
94 cxy_image Cxy ellipse parameter (pixel^-2)
95 a_image RMS position along major axis (pixel)
96 erra_image RMS position error along major axis (pixel)
97 b_image RMS position along minor axis (pixel)
98 errb_image RMS position error along minor axis (pixel)
99 theta_image Ellipse position angle (CCW/x) (deg)
100 errtheta_image Ellipse position error (CCW/x) (deg)
101 theta_world Ellipse position angle (CCW/world-x) (deg)
102 errtheta_world Ellipse position error (CCW/world-x) (deg)
103 isoareaf_image Isophotal area (filtered) above detection threshold (pixel^2)
104-107 isoarea_image Isophotal area above analysis threshold (pix^2) - f606w-f814w-f125w-f160w
108-111 background Background at centroid position (count) - f606w-f814w-f125w-f160w
112-114 flux_radius1/2/3_f606w 20%/50%/80% enclosed fraction-of-light radius (pixels) – f606w
115-117 flux_radius1/2/3_f814w 20%/50%/80% enclosed fraction-of-light radius (pixels) – f814w
118-120 flux_radius1/2/3_f125w 20%/50%/80% enclosed fraction-of-light radius (pixels) – f125w
121-123 flux_radius1/2/3_f160w 20%/50%/80% enclosed fraction-of-light radius (pixels) – f160w

124-127 fwhm_image FWHM assuming a Gaussian core (pixel) - f606w-f814w-f125w-f160w
128 kron_radius Kron aperture
129 petro_radius Petrosian aperture
130-133 flux_max Peak flux above background (μJy) - f606w-f814w-f125w-f160w
134-135 flux_iso/fluxerr_iso f606w Isophotal flux and uncertainty (μJy) - f606w
136-137 flux_iso/fluxerr_iso f814w Isophotal flux and uncertainty (μJy) - f814w
138-139 flux_iso/fluxerr_iso f125w Isophotal flux and uncertainty (μJy) - f125w
140-141 flux_iso/fluxerr_iso f160w Isophotal flux and uncertainty (μJy) - f160w
142-143 flux_isocor/fluxerr_isocor f606w Isophotal flux and uncertainty (μJy) - f606w
144-145 flux_isocor/fluxerr_isocor f814w Isophotal flux and uncertainty (μJy) - f814w
146-147 flux_isocor/fluxerr_isocor f125w Isophotal flux and uncertainty (μJy) - f125w
148-149 flux_isocor/fluxerr_isocor f160w Isophotal flux and uncertainty (μJy) - f160w
150-151 flux_auto/fluxerr_auto f606w Flux (and unc.) within a Kron-like aperture (μJy) - f606w
152-153 flux_auto/fluxerr-auto f814w Flux (and unc.) within a Kron-like aperture (μJy) – f814w
154-155 flux_auto/fluxerr_auto f125w Flux (and unc.) within a Kron-like aperture (μJy) – f125w
156-157 flux_auto/fluxerr_auto f160w Flux (and unc.) within a Kron-like aperture (μJy) – f160w
158-159 flux_best/fluxerr_best f606w Best of flux_auto and flux_isocor (and unc.) (μJy) - f606w
160-161 flux_best/fluxerr_best f814w Best of flux_auto and flux_isocor (and unc.) (μJy) – f814w
162-163 flux_best/fluxerr_best f125w Best of flux_auto and flux_isocor (and unc.) (μJy) – f125w
--- flux_best and fluxerr_best f160w # 34, 35 (see Galametz et al. 2013)
164-165 flux_aper1/fluxerr_aper1 f606w Flux within a circular aperture (μJy) of diam. 0.088''– f606w
166-167 flux_aper1/fluxerr_aper1 f814w Flux within a circular aperture (μJy) of diam. 0.088''– f814w
168-169 flux_aper1/fluxerr_aper1 f125w Flux within a circular aperture (μJy) of diam. 0.088''– f125w
170-171 flux_aper1/fluxerr_aper1 f160w Flux within a circular aperture (μJy) of diam. 0.088''– f160w
172-179 flux_aper2/fluxerr_aper2 f606w-f814w-f125w-f160w - within an aperture of 0.125'' diam.
180-187 flux_aper3/fluxerr_aper3 f606w-f814w-f125w-f160w - within an aperture of 0.176'' diam.
188-195 flux_aper4/fluxerr_aper4 f606w-f814w-f125w-f160w - within an aperture of 0.25'' diam.
196-203 flux_aper5/fluxerr_aper5 f606w-f814w-f125w-f160w - within an aperture of 0.35'' diam.
204-211 flux_aper6/fluxerr_aper6 f606w-f814w-f125w-f160w - within an aperture of 0.5'' diam.
212-219 flux_aper7/fluxerr_aper7 f606w-f814w-f125w-f160w - within an aperture of 0.71'' diam.
220-227 flux_aper8/fluxerr_aper8 f606w-f814w-f125w-f160w - within an aperture of 1'' diam.
228-235 flux_aper9/fluxerr_aper9 f606w-f814w-f125w-f160w - within an aperture of 1.414'' diam.
236-243 flux_aper10/fluxerr_aper10 f606w-f814w-f125w-f160w - within an aperture of 2'' diam.
244-251 flux_aper11/fluxerr_aper11 f606w-f814w-f125w-f160w - within an aperture of 2.828'' diam.
252-253 flux_petro/fluxerr_petro f606w Flux (and unc.) in a Petrosian-like aperture (μJy) – f606w
254-255 flux_petro/fluxerr_petro f814w Flux (and unc.) in a Petrosian-like aperture (μJy) – f814w
256-257 flux_petro/fluxerr_petro f125w Flux (and unc.) in a Petrosian-like aperture (μJy) – f125w
258-259 flux_petro/fluxerr_petro f160w Flux (and unc.) in a Petrosian-like aperture (μJy) – f160w

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Notes:

(1) From the F160W-detected SExtractor catalog

(2) Flags:
- Regarding the F160W detection band
`0': Non-contaminated source.
`2': Source detected at the image edges or on the few artifacts of the f160w image.
`1': Sources detected on star spikes, halos and the bright stars producing them.
`3': Sources with both flag `1' and `2'.
An additional flag is added to mark sources with strongly discrepant photometry between Subaru and ACS. Sources with $|(i' + z') / 2 - f814w| > 0.5$ have a flag of `4'; these sources usually also feature discrepant (v + Rc) and f606w photometry. Sources with flag > 4 are a combination of all flags above. We note however that the ACS data only cover 2/3 of the field.

(3) The photometry was not corrected from dust extinction. We consistently report values of `−99' if the source has no data or is strongly contaminated by a star spike in one specific band.

(4) The coding follows the scheme 'reference-type' (no space):

References: 'Y05' = Yamada et al. 2005; 'G07' = Geach et al. 2007; 'Si06' = Simpson et al. 2006; 'Si12' = Simpson et al. 2012;'Sm08' = Smail et al. 2008; 'Ou08' = Ouchi et al. 2008; 'V08' = Vardoulaki et al. 2008; 'P10' = Papovich et al. 2010; 'T10' = Tanaka et al. 2010; 'F10' = Finoguenov et al. 2010; 'SIP' = Simpson et al. in prep.; 'AIP' = Akiyama et al. in prep.; 'CIP' = Cooper et al. in prep.; 'PIP' = Pearce et al. in prep.

Source types: 'NLAGN' = Narrow-line AGN; 'BLAGN' = Broad-line AGN; 'RadioS' = Radio Source; 'RG' = Radio Galaxy; 'XRay' = X-Ray Source; 'QSO' = Quasi Stellar Object; 'LAE' = Lyman Alpha Emitter; 'ClusterMemb' = Cluster member; 'OPEG' = Old Passively Evolving Galaxy.

Source types for galaxies in the radio source catalog from Simpson et al. 2006 and X-ray source catalog from Ueda et al. 2008 are coded as 'RadioS(Si06)' and 'XRay(U08)' respectively (or both for the only source that was detected in radio and X-ray, namely source # 24437). Possible (but questionable) counterparts of X-ray and radio sources are indicated by a '?'. Two sources falling within 1 arcsec of the two X-ray extended source candidates (sources # 7217 and # 9461) are coded as 'extXRay(U08)'.

(5) Limiting Magnitudes:
- For ground-based and HST data, the limiting magnitudes of a source were derived from the median value of the rms within the source segmentation aperture, reported to an area of one square arcsec (at a 1σ level). The original SExtractor segmentation map was used for the HST data. For the ground-based data, we made use of the dilated segmentation map since the photometry in these bands was derived from a dilated segmentation area.
- The limiting magnitude for the *Spitzer*/IRAC bands was derived from the rms value at the position of the source reported to an area of one square arcsec.