J/A+A/648/A4 LoTSS Deep Fields DR1 photometric redshifts (Duncan+, 2021)

The LOFAR Two-metre Sky Survey: Deep Fields Data Release 1.
IV. Photometric redshifts and stellar masses.
Duncan K.J., Kondapally R., Brown M.J.I., Bonato M., Best P.N.,
Roettgering H.J.A., Bondi M., Bowler R.A.A., Cochrane R.K., Guerkan G.,
Hardcastle M.J., Jarvis M.J., Kunert-Bajraszewska M., Leslie S.K., Malek K.,
Morabito L.K., O'Sullivan S.P., Prandoni I., Sabater J., Shimwell T.W.,
Smith D.J.B., Wang L., Wolowska A.
<Astron. Astrophys. 648, A4 (2021)>
=2021A&A...648A...4D (SIMBAD/NED BibCode)

ADC_Keywords: Galaxies, photometry ; Galaxies, radio ; Redshifts

Keywords: galaxies: distances and redshifts - galaxies: active -
radio continuum: galaxies

Abstract:
The Low Frequency Array (LOFAR) Two-metre Sky Survey (LoTSS) is a sensitive, high-resolution 120-168MHz survey split across multiple tiers over the northern sky. The first LoTSS Deep Fields data release consists of deep radio continuum imaging at 150 MHz of the Bootes, European Large Area Infrared Space Observatory Survey-North 1 (ELAIS-N1), and Lockman Hole fields, down to rms sensitivities of ~32, 20, and 22 muJy/beam, respectively. In this paper we present consistent photometric redshift (photo-z) estimates for the optical source catalogues in all three fields - totalling over 7 million sources (~5 million after limiting to regions with the best photometric coverage). Our photo-z estimation uses a hybrid methodology that combines template fitting and machine learning and is optimised to produce the best possible performance for the radio continuum selected sources and the wider optical source population. Comparing our results with spectroscopic redshift samples, we find a robust scatter ranging from 1.6 to 2% for galaxies and 6.4 to 7% for identified optical, infrared, or X-ray selected active galactic nuclei (AGN). Our estimated outlier fractions ($|z_{phot-z}spec|/(1+z\_spec)>0.15$) for the corresponding subsets range from 1.5 to 1.8% and 18 to 22%, respectively. Replicating trends seen in analyses of previous wide-area radio surveys, we find no strong trend in photo-z quality as a function of radio luminosity for a fixed redshift. We exploit the broad wavelength coverage available within each field to produce galaxy stellar mass estimates for all optical sources at z<1.5. Stellar mass functions derived for each field are used to validate our mass estimates, with the resulting estimates in good agreement between each field and with published results from the literature.

Description:
Photometric redshifts are calculated using the optical photometry catalogs presented in Kondapally et al. (Paper III. 2020, in prep.), using a hybrid template + machine learning approach. Stellar masses assume a Chabrier (2003PASP..115..763C) initial mass function. Values presented have not been corrected to total fluxes/magnitudes.

File Summary:

FileName	Lrecl	Records	Explanations
ReadMe	80	.	This file
bootes.dat	460	2214329	Bootes Field Photometric redshift catalogue
en1.dat	505	2105993	ELAIS-N1 Photometric redshift catalogue
lockman.dat	502	3041794	Lockman Hole photometric redshift catalogue

See also:
J/A+A/648/A2 : LOFAR Two-metre Sky Survey Deep Fields DR1 (Sabater+, 2021)
J/A+A/648/A3 : LOFAR Two-metre Sky Survey Deep Fields DR1 (Kondapally+, 2021)
J/A+A/648/A9 : Lockman Hole Apertif map at 1.4GHz (Morganti+, 2021)

https://lofar-surveys.org/releases.html : LOFAR Home Page

Byte-by-byte Description of file: bootes.dat

Bytes	Format	Units	Label	Explanations
1- 7	I7	---	ID	Unique object identifier for multi-wavelength catalogue in this field
9- 15	I7	---	IDOpt	Identifier for the optical-NIR detected chi2 catalogue (ID_OPTICAL)

17- 22	I6	---	IDSpitzer	?=-99 Identifier for the Spitzer detected chi2 catalogue (ID_SPITZER)
24- 39	F16.12	deg	RAdeg	Right ascension (J2000) (RA)
41- 55	F15.12	deg	DEdeg	Declination (J2000) (DEC)
57- 62	F6.4	---	E(B-V)	E(B-V) galactic extinction for the source based on its position and Schlegel+(1998ApJ...500..525S)
64- 71	F8.4	---	Class	Stellarity Parameter (CLASSSTAR)
73	I1	---	overlap	[0/1] Bit flag indicating the multi-wavelength coverage (FLAGOVERLAP)
75	I1	---	clean	[0/3] 3-valued flag indicating bright star masking (FLAGCLEAN)
77- 84	F8.4	---	zbest	Best available redshift estimate (Z_BEST)
86	I1	---	f_zbest	[0/1] Source of z_best, 0 = photometric, 1 = spectroscopic (Z_{BEST}SOURCE)
88- 95	F8.4	---	zspec	?=-99 Literature Spectroscopic Redshift (Z_SPEC)
97- 99	I3	---	r_zspec	?=-99 Source of the spectroscopic redshift (Z_SOURCE)
101-103	I3	---	q_zspec	?=-99 Spectroscopic redshift quality: flag Q=3 means probable, Q≥4 means reliable (Z_QUAL)
105-112	F8.4	---	z1med	Median of the primary redshift peak above 80% HPD CI (z1_median)
114-121	F8.4	---	z1min	Lower bound of the primary 80% HPD CI peak (z1_min)
123-130	F8.4	---	z1max	Upper bound of the primary 80% HPD CI peak (z1_max)
132-139	F8.4	---	z1area	Integrated area of the primary 80% HPD CI peak (z1_area)
141-148	F8.4	---	z2med	Median of the secondary redshift peak (if present) above 80% HPD CI (z2_median)
150-157	F8.4	---	z2min	Lower bound of the secondary 80% HPD CI peak (z2_min)
159-166	F8.4	---	z2max	Upper bound of the secondary 80% HPD CI peak (z2_max)
168-175	F8.4	---	z2area	Integrated area of the secondary 80% HPD CI peak (z2_area)
177-179	I3	---	nfiltEazy	?=-99 Number of filters included in EAZY template fit (nfilt_eazy) (G1)
181-183	I3	---	nfiltAtl	?=-99 Number of filters included in Atlas+AGN template fit (nfilt_atlas) (G2)
185-187	I3	---	nfiltAna	?=-99 Number of filters included in Ananna+ template fit (nfilt_ananna) (G3)
189-196	F8.4	---	chirBest	?=-99 Chi^2 / nfilt for best-fit galaxy/AGN template (any library) (chi_rbest)
198-205	F8.4	---	chirStelR	?=-99 Chi^2 / nfilt for best-fit stellar template (chi_rstellar)
207-212	A6	---	StelType	Stellar type of best-fit stellar template (stellar_type)
214	I1	---	AGN	[0/1] Sources flagged by any one of optAGN/IRAGN/XrayAGN
216	I1	---	optAGN	[0/1] Source is included in Million Quasar Catalog (Flesch 2015PASA...32...10F) compilation or spectroscopically identified AGN
218	I1	---	IRAGN	[0/1] Source satisfies Donley et al. (2012ApJ...748..142D) IR AGN criteria
220	I1	---	XrayAGN	[0/1] Source has X-ray counterpart
222-230	E9.2	W/m2	XrayFlux	?=-9.90E-02 XBootes Soft X-ray Flux (XrayFlux_0.5-2)
232-239	F8.4	---	HRX	?=-99 XBootes X-ray Hardness Ratio
241-248	F8.4	---	aptmz	?=-99 Estimated z-band total flux correction from Legacy Surveys model flux (z) (ap_{to}model_z)
250-257	F8.4	---	e_aptmz	?=999 Statistical uncertainty on tot_z ($ap_{to}model_{err}$z)
259-266	F8.4	---	aptmzS	?=-99 Estimated z-band total flux correction from Legacy Surveys model flux (z_Subaru) ($ap_{to}model_z$Subaru)
268-275	F8.4	---	e_aptmzS	?=999 Statistical uncertainty on tot_zSubaru ($ap_{to}model_{err}$z_Subaru)
277-284	F8.4	---	zmodel	?=-99 Model grid redshift used in stellar mass fit
286-294	F9.4	---	chibest	?=-99 Minimum Chi^2 in stellar mass fit (for Z_BEST) (chi_best)
296-303	F8.4	[Msun]	Massmed	?=-99 50th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_median)
305-312	F8.4	[Msun]	Massl68	?=-99 16th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_l68)
314-321	F8.4	[Msun]	Massu68	?=-99 84th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_u68)
323-325	I3	---	Nfilts	?=-99 Number of bands included in stellar mass fit
327-334	F8.4	mag	umag	?=-99 Rest-frame u-band magnitude for best-fit

				SED (for Z_BEST) (u_rest)
336-343	F8.4	mag	Bwmag	?=-99 Rest-frame Bw-band magnitude for best-fit SED (for Z_BEST) (Bw_rest)
345-352	F8.4	mag	Rmag	?=-99 Rest-frame R-band magnitude for best-fit SED (for Z_BEST) (R_rest)
354-361	F8.4	mag	imag	?=-99 Rest-frame I-band magnitude for best-fit SED (for Z_BEST) (I_rest)
363-370	F8.4	mag	zmag	?=-99 Rest-frame z-band magnitude for best-fit SED (for Z_BEST) (z_rest)
372-379	F8.4	mag	zSmag	?=-99 Rest-frame z_Subaru-band magnitude for best-fit SED (for Z_BEST) (z_{Subaru}rest)
381-388	F8.4	mag	ymag	?=-99 Rest-frame y-band magnitude for best-fit SED (for Z_BEST) (y_rest)
390-397	F8.4	mag	Jmag	?=-99 Rest-frame J-band magnitude for best-fit SED (for Z_BEST) (J_rest)
399-406	F8.4	mag	Hmag	?=-99 Rest-frame H-band magnitude for best-fit SED (for Z_BEST) (H_rest)
408-415	F8.4	mag	Kmag	?=-99 Rest-frame K-band magnitude for best-fit SED (for Z_BEST) (K_rest)
417-424	F8.4	mag	Ksmag	?=-99 Rest-frame Ks-band magnitude for best-fit SED (for Z_BEST) (Ks_rest)
426-433	F8.4	mag	IRAC1	?=-99 Rest-frame IRAC 3.6micron magnitude for best-fit SED (for Z_BEST) (z_rest)
435-442	F8.4	mag	IRAC2	?=-99 Rest-frame IRAC 4.5micron magnitude for best-fit SED (for Z_BEST) (z_rest)
444-451	F8.4	mag	IRAC3	?=-99 Rest-frame IRAC 5.8micron magnitude for best-fit SED (for Z_BEST) (z_rest)
453-460	F8.4	mag	IRAC4	?=-99 Rest-frame IRAC 8.0micron magnitude for best-fit SED (for Z_BEST) (z_rest)

Byte-by-byte Description of file: en1.dat

Bytes	Format	Units	Label	Explanations
1- 7	I7	---	ID	Unique object identifier for multi-wavelength catalogue in this field
9- 15	I7	---	IDOpt	Identifier for the optical-NIR detected chi2 catalogue (ID_OPTICAL)
17- 22	I6	---	IDSpitzer	?=-99 Identifier for the Spitzer detected chi2 catalogue (ID_SPITZER)
24- 39	F16.12	deg	RAdeg	Right ascension (J2000) (RA)
41- 55	F15.12	deg	DEdeg	Declination (J2000) (DEC)
57- 62	F6.4	mag	E(B-V)	E(B-V) galactic extinction for the source based on its position and Schlegel et al. (1998ApJ...500..525S)
64- 69	F6.4	---	Class	Stellarity Parameter
71	I1	---	overlap	[0/7] Bit flag indicating the multi-wavelength coverage
73	I1	---	clean	[1/3] 3-valued flag indicating bright star masking
75- 82	F8.4	---	zbest	Best available redshift estimate (Z_BEST)
84	I1	---	f_zbest	[0/1] Source of z_best, 0 = photometric, 1 = spectroscopic (Z_{BEST}SOURCE)
86- 93	F8.4	---	zspec	?=-99 Literature Spectroscopic Redshift (Z_SPEC)
95- 97	I3	---	e_zspec	?=-99 Source of the spectroscopic redshift (Z_SOURCE)
99-101	I3	---	q_zspec	?=-99 Spectroscopic redshift quality: flag Q=3 means probable, Q≥4 means reliable (Z_QUAL)
103-110	F8.4	---	z1med	Median of the primary redshift peak above 80% HPD CI (z1_median)
112-119	F8.4	---	z1min	Lower bound of the primary 80% HPD CI peak (z1_min)
121-128	F8.4	---	z1max	Upper bound of the primary 80% HPD CI peak (z1_max)
130-137	F8.4	---	z1area	Integrated area of the primary 80% HPD CI peak (z1_area)
139-146	F8.4	---	z2med	Median of the secondary redshift peak (if present) above 80% HPD CI (z2_median)
148-155	F8.4	---	z2min	Lower bound of the secondary 80% HPD CI peak (z2_min)
157-164	F8.4	---	z2max	Upper bound of the secondary 80% HPD CI peak (z2_max)
166-173	F8.4	---	z2area	Integrated area of the secondary 80% HPD CI peak (z2_area)
175-177	I3	---	nfiltEazy	?=-99 Number of filters included in EAZY template fit (nfilt_eazy) (G1)
179-181	I3	---	nfiltAtl	?=-99 Number of filters included in Atlas+AGN template fit (nfilt_atlas) (G2)
183-185	I3	---	nfiltAna	?=-99 Number of filters included in Ananna+ template fit (nfilt_ananna) (G3)
187-194	F8.4	---	chirBest	?=-99 Chi^2 / nfilt for best-fit galaxy/AGN template (any library) (chi_rbest)
196-203	F8.4	---	chirStel	?=-99 Chi^2 / nfilt for best-fit stellar

				template (chi$_r$stellar)
205-210	A6	---	StelType	Stellar type of best-fit stellar template (stellar_type)
212	I1	---	AGN	[0/1] Sources flagged by any one of optAGN/IRAGN/XrayAGN
214	I1	---	optAGN	[0/1] Source is included in Million Quasar Catalog (Flesch 2015PASA...32...10F) compilation or spectroscopically identified AGN
216	I1	---	IRAGN	[0/1] Source satisfies Donley et al. (2012ApJ...748..142D) IR AGN criteria
218	I1	---	XrayAGN	[0/1] Source has X-ray counterpart
220-240	A21	---	2RXSID	? ID for 2RXS X-ray Catalog counterpart (G4)
242-264	A23	---	XMMSL2ID	? ID for XMMSL2 X-ray Catalog counterpart (G4)
266-273	F8.4	---	aptmg	?=-99 Estimated g-band total flux correction from Legacy Surveys model flux (g) (ap$_{to}$model_g)
275-282	F8.4	---	e_aptmg	?=999 Statistical uncertainty on atpmg (ap$_{to}$model$_{err}$g)
284-298	F15.4	---	aptmr	?=-99 Estimated r-band total flux correction from Legacy Surveys model flux (r) (ap$_{to}$model_r)
300-311	F12.4	---	e_aptmr	?=999 Statistical uncertainty on atpmg (ap$_{to}$model$_{err}$r)
313-320	F8.4	---	aptmz	?=-99 Estimated z-band total flux correction from Legacy Surveys model flux (z) (ap$_{to}$model_z)
322-329	F8.4	---	e_aptmz	?=999 Statistical uncertainty on atpmg (ap$_{to}$model$_{err}$z)
331-338	F8.4	---	zmodel	?=-99 Model grid redshift used in stellar mass fit
340-348	F9.4	---	chibest	?=-99 Minimum Chi^2 in stellar mass fit (for Z_BEST) (chi_best)
350-357	F8.4	[Msun]	Massmed	?=-99 50th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_median)
359-366	F8.4	[Msun]	Massl68	?=-99 16th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_l68)
368-375	F8.4	[Msun]	Massu68	?=-99 84th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_u68)
377-379	I3	---	Nfilts	?=-99 Number of bands included in stellar mass fit
381-388	F8.4	mag	umag	?=-99 Rest-frame u-band magnitude for best-fit SED (for Z_BEST) (u_rest)
390-397	F8.4	mag	gmag	?=-99 Rest-frame g-band magnitude for best-fit SED (for Z_BEST) (g_rest)
399-406	F8.4	mag	rmag	?=-99 Rest-frame r-band magnitude for best-fit SED (for Z_BEST) (r_rest)
408-415	F8.4	mag	imag	?=-99 Rest-frame i-band magnitude for best-fit SED (for Z_BEST) (i_rest)
417-424	F8.4	mag	zmag	?=-99 Rest-frame z-band magnitude for best-fit SED (for Z_BEST) (z_rest)
426-433	F8.4	mag	ymag	?=-99 Rest-frame y-band magnitude for best-fit SED (for Z_BEST) (y_rest)
435-442	F8.4	mag	Jmag	?=-99 Rest-frame J-band magnitude for best-fit SED (for Z_BEST) (J_rest)
444-451	F8.4	mag	Kmag	?=-99 Rest-frame K-band magnitude for best-fit SED (for Z_BEST) (K_rest)
453-460	F8.4	mag	IRAC1vs	?=-99 Rest-frame IRAC 3.6micron magnitude for best-fit SED (for Z_BEST) (ch1$_{servs}$rest)
462-469	F8.4	mag	IRAC2vs	?=-99 Rest-frame IRAC 4.5micron magnitude for best-fit SED (for Z_BEST) (ch2$_{servs}$rest)
471-478	F8.4	mag	IRAC1sw	?=-99 Rest-frame IRAC 3.6micron magnitude for best-fit SED (for Z_BEST) (ch1$_{swire}$rest)
480-487	F8.4	mag	IRAC2sw	?=-99 Rest-frame IRAC 4.5micron magnitude for best-fit SED (for Z_BEST) (ch2$_{swire}$rest)
489-496	F8.4	mag	IRAC3sw	?=-99 Rest-frame IRAC 5.8micron magnitude for best-fit SED (for Z_BEST) (ch3$_{swire}$rest)
498-505	F8.4	mag	IRAC4sw	?=-99 Rest-frame IRAC 8.0micron magnitude for best-fit SED (for Z_BEST) (ch4$_{swire}$rest)

Byte-by-byte Description of file: lockman.dat

Bytes	Format	Units	Label	Explanations
1- 7	I7	---	ID	Unique object identifier for multi-wavelength catalogue in this field
9- 15	I7	---	IDOpt	Identifier for the optical-NIR detected chi2 catalogue (ID_OPTICAL)
17- 22	I6	---	IDSpitzer	?=-99 Identifier for the Spitzer detected chi2

				catalogue (ID_SPITZER)
24- 39	F16.12	deg	RAdeg	Right ascension (J2000) (RA)
41- 55	F15.12	deg	DEdeg	Declination (J2000) (DEC)
57- 62	F6.4	mag	E(B-V)	E(B-V) galactic extinction for the source based on its position and Schlegel et al. (1998ApJ...500..525S)
64- 69	F6.4	---	Class	Stellarity Parameter (CLASSSTAR)
71	I1	---	clean	[1/3] 3-valued flag indicating bright star masking (FLAGCLEAN)
73- 80	F8.4	---	zbest	?=-99 Best available redshift estimate (Z_BEST)
82	I1	---	f_zbest	[0/1] Source of z_best, 0 = photometric, 1 = spectroscopic (Z_{BEST}SOURCE)
84- 91	F8.4	---	zspec	?=-99 Literature Spectroscopic Redshift (Z_SPEC)
93-100	F8.4	---	z1med	?=-99 Median of the primary redshift peak above 80% HPD CI (z1_median)
102-109	F8.4	---	z1min	?=-99 Lower bound of the primary 80% HPD CI peak (z1_min)
111-118	F8.4	---	z1max	?=-99 Upper bound of the primary 80% HPD CI peak (z1_max)
120-127	F8.4	---	z1area	?=-99 Integrated area of the primary 80% HPD CI peak (z1_area)
129-136	F8.4	---	z2med	?=-99 Median of the secondary redshift peak (if present) above 80% HPD CI (z2_median)
138-145	F8.4	---	z2min	?=-99 Lower bound of the secondary 80% HPD CI peak (z2_min)
147-154	F8.4	---	z2max	?=-99 Upper bound of the secondary 80% HPD CI peak (z2_max)
156-163	F8.4	---	z2area	?=-99 Integrated area of the secondary 80% HPD CI peak (z2_area)
165-167	I3	---	nfiltEazy	?=-99 Number of filters included in EAZY template fit (nfilt_eazy) (G1)
169-171	I3	---	nfiltAtl	?=-99 Number of filters included in Atlas+AGN template fit (nfilt_atlas) (G2)
173-175	I3	---	nfiltAna	?=-99 Number of filters included in Ananna+ template fit (nfilt_ananna) (G3)
177-184	F8.4	---	chirBest	?=-99 Chi^2 / nfilt for best-fit galaxy/AGN template (any library) (chi_rbest)
186-193	F8.4	---	chirStel	?=-99 Chi^2 / nfilt for best-fit stellar template (chi_rstellar)
195-200	A6	---	StelType	Stellar type of best-fit stellar template (stellar_type)
202	I1	---	AGN	[0/1] Sources flagged by any one of optAGN/IRAGN/XrayAGN
204	I1	---	optAGN	[0/1] Source is included in Million Quasar Catalog (Flesch 2015PASA...32...10F) compilation or spectroscopically identified AGN
206	I1	---	IRAGN	[0/1] Source satisfies Donley et al. (2012ApJ...748..142D) IR AGN criteria
208	I1	---	XrayAGN	?=-99 Source has X-ray counterpart
210-230	A21	---	2RXSID	? ID for 2RXS X-ray Catalog counterpart
232-254	A23	---	XMMSL2ID	? ID for XMMSL2 X-ray Catalog counterpart
256-263	F8.4	---	aptmg	?=-99 Estimated g-band total flux correction from Legacy Surveys model flux (g) (ap_{to}model_g)
265-272	F8.4	---	e_aptmg	?=999 Statistical uncertainty on atpmg ($ap_{to}model_{err}$g)
274-281	F8.4	---	aptmr	?=-99 Estimated r-band total flux correction from Legacy Surveys model flux (r) (ap_{to}model_r)
283-290	F8.4	---	e_aptmr	?=999 Statistical uncertainty on atpmr ($ap_{to}model_{err}$r)
292-299	F8.4	---	aptmz	?=-99 Estimated z-band total flux correction from Legacy Surveys model flux (z) (ap_{to}model_z)
301-308	F8.4	---	e_aptmz	?=999 Statistical uncertainty on atpmz ($ap_{to}model_{err}$z)
310-317	F8.4	---	zmodel	?=-99 Model grid redshift used in stellar mass fit
319-327	F9.4	---	chibest	?=-99 Minimum Chi^2 in stellar mass fit (for Z_BEST) (chi_best)
329-336	F8.4	[Msun]	Massmed	?=-99 50th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_median)
338-345	F8.4	[Msun]	Massl68	?=-99 16th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_l68)
347-354	F8.4	[Msun]	Massu68	?=-99 84th percentile of the marginalised stellar mass posterior (for Z_BEST) (Mass_u68)
356-358	I3	---	Nfilts	?=-99 Number of bands included in stellar mass fit
360-367	F8.4	mag	umag	?=-99 Rest-frame u-band magnitude for best-fit SED (for Z_BEST) (u_rest)
369-376	F8.4	mag	gmag	?=-99 Rest-frame g-band magnitude for

				best-fit SED (for Z_BEST) (g_rest)
378-385	F8.4	mag	rmag	?=-99 Rest-frame r-band magnitude for best-fit SED (for Z_BEST) (r_rest)
387-394	F8.4	mag	zmag	?=-99 Rest-frame z-band magnitude for best-fit SED (for Z_BEST) (z_rest)
396-403	F8.4	mag	grcsmag	?=-99 Rest-frame g_rcs-band magnitude for best-fit SED (for Z_BEST) (g_{rcs}rest)
405-412	F8.4	mag	rrcsmag	?=-99 Rest-frame r_rcs-band magnitude for best-fit SED (for Z_BEST) (r_{rcs}rest)
414-421	F8.4	mag	ircsmag	?=-99 Rest-frame i_rcs-band magnitude for best-fit SED (for Z_BEST) (i_{rcs}rest)
423-430	F8.4	mag	zrcsmag	?=-99 Rest-frame z_rcs-band magnitude for best-fit SED (for Z_BEST) (z_{rcs}rest)
432-439	F8.4	mag	Jmag	?=-99 Rest-frame J-band magnitude for best-fit SED (for Z_BEST) (J_rest)
441-448	F8.4	mag	Kmag	?=-99 Rest-frame K-band magnitude for best-fit SED (for Z_BEST) (K_rest)
450-457	F8.4	mag	IRAC1sv	?=-99 Rest-frame IRAC 3.6micron magnitude for best-fit SED (for Z_BEST) ($ch1_{servs}$rest)
459-466	F8.4	mag	IRAC2sv	?=-99 Rest-frame IRAC 4.5micron magnitude for best-fit SED (for Z_BEST) ($ch2_{servs}$rest)
468-475	F8.4	mag	IRAC1sw	?=-99 Rest-frame IRAC 3.6micron magnitude for best-fit SED (for Z_BEST) ($ch1_{swire}$rest)
477-484	F8.4	mag	IRAC2sw	?=-99 Rest-frame IRAC 4.5micron magnitude for best-fit SED (for Z_BEST) ($ch2_{swire}$rest)
486-493	F8.4	mag	IRAC3sw	?=-99 Rest-frame IRAC 5.8micron magnitude for best-fit SED (for Z_BEST) ($ch3_{swire}$rest)
495-502	F8.4	mag	IRAC4sw	?=-99 Rest-frame IRAC 8.0micron magnitude for best-fit SED (for Z_BEST) ($ch4_{swire}$rest)

Global notes:

Note (G1): EAZY (Brammer et al. 2008ApJ...686.1503B)

Note (G2): Atlas+AGN, (Brown et al. 2014ApJS..212...18B, Cat. J/ApJS/212/18, 2019MNRAS.489.3351B)
Note (G3): Ananna et al., 2017ApJ...850...66A, Cat. J/ApJ/850/66+

Note (G4): 2RXS, Boller et al., 2016A&A...588A.103B, Cat. J/A+A/588/A103
XMMSL2, XMM-SSC, Cat. IX/53

Acknowledgements:
Kenneth Duncan, kdun(at)roe.ac.uk and duncan(at)strw.leidenuniv.nl

References:

Tasse et al.,	Paper I	2020A&A...248A...1T
Sabater et al.,	Paper II	2020A&A...248A...2S, Cat. J/A+A/648/A2
Kondapally et al.,	Paper III	2020A&A...248A...3S, Cat. J/A+A/648/A3
Mandal et al.,	Paper V	2020A&A...248A...5M
Smith et al.,	Paper VI	2020A&A...248A...6S
Gloudemans et al.,	Paper VII	2020A&A...248A...7G
Wang et al.,	Paper VIII	2020A&A...248A...8W
Morganti et al.,	Paper IX	2020A&A...248A...9M, Cat. J/A+A/648/A9
Hardcastle et al.,	Paper X	2020A&A...248A..10H
Osinga et al.,	Paper XI	2020A&A...248A..11O
Herrera Ruiz et al.,	Paper XII	2020A&A...248A..12H
Callingham et al.,	Paper XIII	2020A&A...248A..13C

(End) Patricia Vannier [CDS] 27-Nov-2020

*The document above follows the rules of the Standard Description for Astronomical Catalogues; from this documentation it is possible to generate **f77** program to load files into arrays or line by line*