

catalog cross-matches

O. Perdereau

IJCLab, CNRS/IN2P3, Université Paris-Saclay, Orsay, France



université
PARIS-SACLAY



Tianlai zoom
january 31th, 2023

Catalogs I used

I matched :

- 2mass photometric redshift catalog
- super-cosmos X wise (with $z_{photo} < 0.15$)

with the last version (v4) of our redshift catalog

Resulting catalog (csv file) can be found here :

<https://box.in2p3.fr/index.php/s/f2mQqM6bp58YpPM>

all sources are matched, distances given by one of the new columns

"good" matches : distance < 1 arcsec

also ad IDs in each catalog and redshifts (2mps ahas a ffew spectro ones)

2 MPZ

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ssa.roe.ac.uk/www/ssa_browser.html

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TABLE twompzPhotoz

Contains the parameters provided for each source in catalogue

This table contains the contents of the 2MASS Photometric Redshift Catalogue. The catalogue was constructed by cross-matching 2MASS XSC, WISE and SuperCOSMOS all-sky samples and employing the artificial neural network approach (the ANNz algorithm, Collister & Lahav 2004), trained on several redshift surveys (2MRS, SDSS, 6dFGS, 2dFGRS and ZCAT). The derived photometric redshifts have errors nearly independent of distance, with an all-sky accuracy of $\sigma_{z} = 0.015$, and only a small percentage of outliers. These redshift estimates have a typical precision of 12% for all the 2MASS XSC galaxies that lack spectroscopy. The resulting 2MPZ sample contains almost 1 million galaxies with a median redshift of $z=0.07$. This catalogue is described in Bilicki et al. 2014, ApJS, 210, 9.

Required constraints:

- Primary key is (twomassID)

Name	Type	Length	Unit	Description	Default Value	Unified Content Descriptor
twomassX	varchar	17		2MASS source designation (image primary HDU keyword: 2MASX)		meta.id
twomassID	bigint	8		2MASS ID, equivalent to ext_key in twomass_xsc		meta.id:meta.main
wiseX	varchar	22		WISE source designation in allskysc (image primary HDU keyword: WISE_designation)	NONE	meta.id
wiseID	bigint	8		WISE ID for wise_allskysc (crf)	-99999999	meta.id
scosID	bigint	8		SuperCOSMOS Source table (objID) (image primary HDU keyword: SCOS_objID)	-99999999	meta.id
cx	float	8		unit vector of spherical co-ordinates		pos.cartesian.x:pos.eq
cy	float	8		unit vector of spherical co-ordinates		pos.cartesian.y:pos.eq
cz	float	8		unit vector of spherical co-ordinates		pos.cartesian.z:pos.eq

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SSA
PSSA
TWOMASS
TWOMPZ
WISExSCOSPZ

Database Objects

Tables

wiseScosPhotoz
wiseScosPhotozRejects
wiseScos3vm

SDSS

TABLE wiseScosPhotoz

WISE x SuperCOSMOS Photometric Redshift catalogue

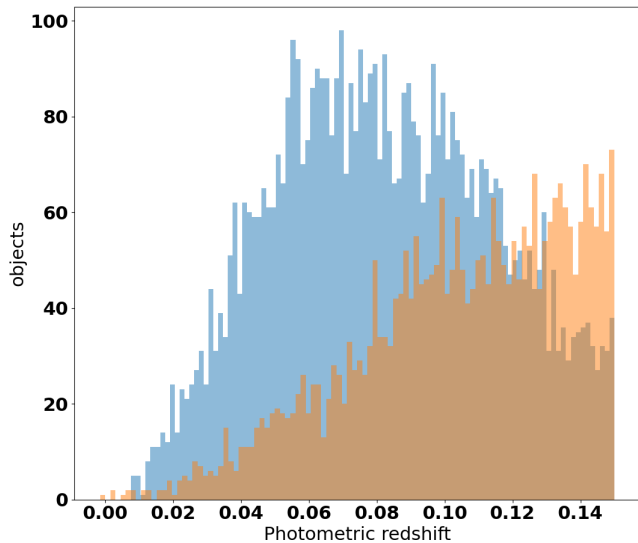
Constructed by cross-matching WISE and SuperCOSMOS all-sky samples and employing the artificial neural network approach to calculate photometric redshifts (the ANNz algorithm, Collister & Lahav 2004), trained on the GAMA-II redshift survey (Driver et al. 2011; Liske et al. 2015). The derived photometric redshifts have errors nearly independent of distance, with an overall accuracy of $|fz - 0.03|$, and a very small percentage of outliers. These redshift estimates have a typical precision of 15%. The resulting WISExSuperCOSMOS sample contains (after appropriate masking) about 18.5 million galaxies with a median redshift of $z=0.2$. This catalogue is described in Bilicki et al. 2016, ApJS, 225, 5.

Required constraints:

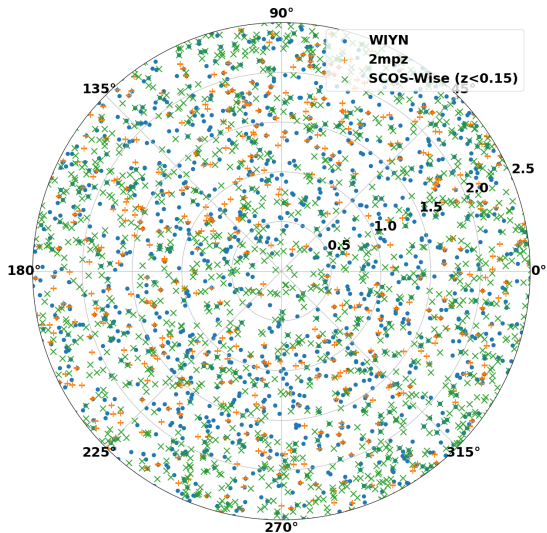
- Primary key is (wiseID)

Name	Type	Length	Unit	Description	Default Value	Unified Content Descriptor
wiseX	varchar	22		WISE source designation in the AllWISE/ALLSKY source catalogue (image primary HDU keyword: designation)	NONE	meta.id
wiseID	bigint	8		WISE ID for the AllWISE source catalogue (allwise_sc.crf)	-99999999	meta.id
scosID	bigint	8		SuperCOSMOS Source table (objID) (image primary HDU keyword: objID)	-99999999	meta.id
cx	float	8		unit vector of spherical co-ordinates		pos.cartesian.x.pos.eq
cy	float	8		unit vector of spherical co-ordinates		pos.cartesian.y.pos.eq
cz	float	8		unit vector of spherical co-ordinates		pos.cartesian.z.pos.eq
hmiID	bigint	8		Hierarchical Triangular Mesh (HTM) Index, 20 deep, for equatorial co-ordinates		pos

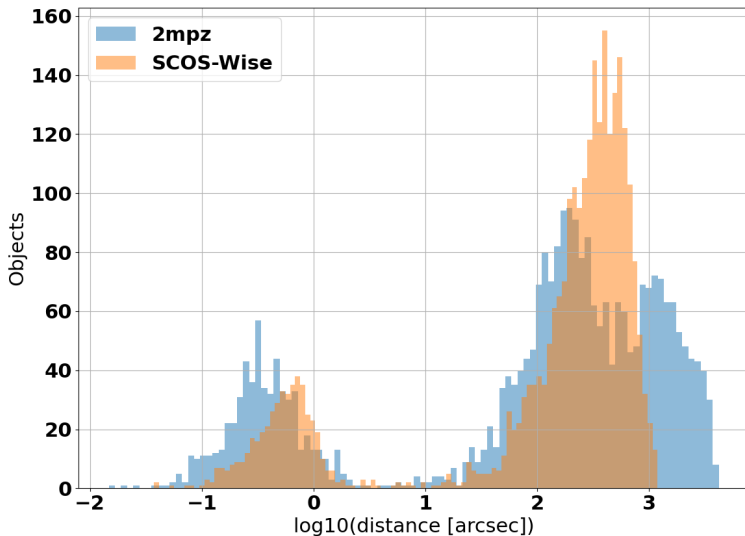
Redshifts



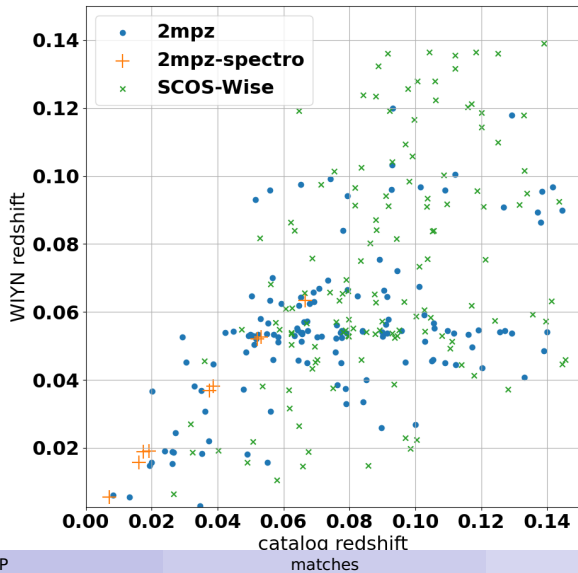
sky plot



geometric distances



redshift compared



redshift compared (2mpz paper)

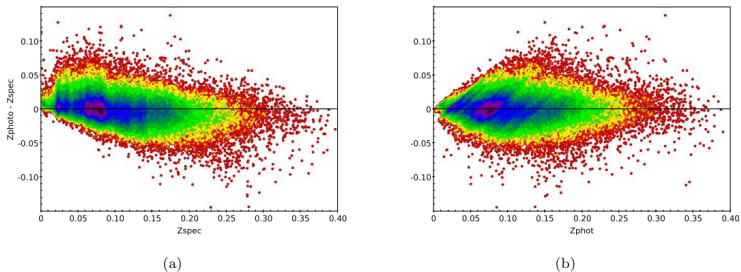


Figure 7. Error in the photo- z as a function of (a) spectroscopic redshift and (b) photometric redshift. These plots illustrate the property of the photo- z 's being unbiased in a sense that the mean true redshift at given z_{phot} is equal to z_{phot} , while they are overestimated near $z_{\text{spec}} = 0$ and underestimated at high z .