

ERRATUM “THE SECOND CATALOG OF ACTIVE GALACTIC NUCLEI DETECTED BY THE *FERMI* LARGE AREA TELESCOPE” (2011, ApJ, 743, 171)

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The code developed for the Likelihood-Ratio (LR) method used in the counterpart association procedure of the 2LAC catalog and described in Section 3.2 of the published paper contained an error in the epoch of the celestial coordinates used in the sky simulations. After the cross correlations, which were performed in the J2000.0 epoch, the coordinates of the fake sources were erroneously precessed to B1950.0. This affected the evaluation of the LR values of the fake skies and in turn the computation of the reliability function $R(LR_{ij})$. The reliability curves were shifted to lower LR, resulting in higher association probabilities at a given LR. The corrected entries for Tables 1 (showing the LR critical value LR_c , i.e., the threshold where the reliability becomes greater than 80% for the different surveys) and 2 (comparing the results of the different association methods) are given below. The PMN survey has been removed since, with the corrected coordinate epoch, it does not bring any new association on its own.

In total, 88 former 2LAC sources have corrected association probabilities below 0.8. These are widely distributed in Galactic latitude. A comparison between the initial and corrected census is given in Table 3. The revised 2LAC lists 929 sources with Galactic latitude $|b| > 10^\circ$, with 10 double associations. The revised 2LAC Clean Sample now includes 827 sources (instead of 886) divided into 303 FSRQs, 381 BL Lacs, 124 blazars of unknown type, and 19 non-blazar AGNs. A total of 544 sources are now associated by all three association methods used in the 2LAC work, 507 being in the Clean 2LAC Sample.

Three non-blazar sources, formerly associated in the 2LAC catalog, have dropped off the revised 2LAC list: Fornax A, PKS 0943–73, and ESO 323–77. We also note that 2FGL J0114.7+1326 was erroneously associated, due to a typographical error, with the BL Lac GB6 J0114+1325, while the correct association is with the FSRQ GB6 J0115+1324. That association is now reported in the revised version of 2LAC.

Table 1
Initial and Corrected Values of LR_c for the Catalogs Used for 2LAC Associations

Survey	initial log LR_c	corrected log LR_c
NVSS	-0.28	2.08
SUMSS	0.79	1.92
RASS	1.71	3.03
AT20G	2.91	6.20

Table 2
Comparison of Association Methods (Correction of Table 2 in 2LAC)

Sample	Total	N_{false}	Bayesian	N_{false}	N_S	LR	N_{false}	N_S	$\log N - \log S$	N_{false}	N_S
All	929	18.5	846	12.5	84	643	75.5	26	763	22.7	38
Clean Sample	827	14.7	754	9.1	64	594	69.0	24	691	19.1	32

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Table 3
Comparison of Association Results between Initial and Corrected 2LAC Catalogs

Sample	2FGL sources ass. with AGNs	AGNs in 2FGL	2LAC	AGNs at $ b < 10^\circ$	Clean Sample
Initial	1095	1121	1017	104	886
Corrected	1019	1029	929	100	827
Sources affected	76	92	88	4	59