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Erratum: Electromagnetic counterparts to gravitational wave events from *Gaia*

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1 GW DETECTOR

This is an erratum to the paper 'Electromagnetic counterparts to gravitational wave events from *Gaia*' (2020, MNRAS, 493, 3264). In Section 2.1 of the original manuscript we described all steps taken in the final selection of candidates. The step (viii) was described as: 'We removed transits where the photometry is flagged as bad during the IDT'. However, in our filtering we did not inspect all IDT flags (see Fabricius et al. (2016) for a summary of IDT diagnostic quantities). After correcting this step we obtained a smaller sample of candidates and our approach will mimic the real time transient search in *Gaia* Science Alerts (GSA) system to a greater degree. Hence, from the one year all-sky test we obtained about ∼0.13M new candidate transients that gives us the transient rate about $\lesssim$ 0.010 per sq deg per day. The prediction for the number of future candidates decreases to 10 per day instead of the 21 per day as was given in the main paper.

The impact of each selection criterion applied during filtering on the sample size is summarized in Table 1.

The completeness of the new set of candidates was also studied using the Transient Name Server (TNS) as in Section 2.2 of the main paper. We rediscovered 2948 transients in our one year long sky survey from 10459 sources reported to TNS by various surveys (including 1289 alerted by GSA, in total 111 transients were not rediscovered by our detection algorithm even though they were discovered by GSA).

2 EVENTS FROM RUNS O1 AND O2

Improved criteria also apply to the candidate transients associated with events from the O1 and O2 runs described in Section 3 of the main paper. The final sample of 250 candidates is presented in the table available in its entirety in a machine-readable form from the online journal.

Table 1. A summary of the impact of each selection criterion applied during filtering on the sample size.

Criterion	Number of remaining candidates	Rejection ratio
(i)	38×10^6	0.74
(ii)	8.3×10^6	0.78
(iii)	7.0×10^6	0.16
(iv)	3.6×10^6	0.49
(v)	1.4×10^6	0.61
(vi)	1.2×10^6	0.14
(vii)	1.2×10^6	<0.01
(viii)	9.3×10^5	0.19
(ix)	1.3×10^5	0.86

REFERENCE

Fabricius C. et al., 2016, A&A, 595, A3

SUPPORTING INFORMATION

Supplementary data are available at *MNRAS* online.

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