

# CORRIGENDUM TO “IMPROVING THE EXISTENCE BOUNDS FOR GRID-BLOCK DIFFERENCE FAMILIES”

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In Remark 1 of [1], there is an erroneous conclusion, saying that a  $(p, L_{2,6}, 1)$ -DF with an initial grid-block  $B$  of the form

$$B = \begin{bmatrix} 1 & \omega & \omega^2 & y & y\omega & y\omega^2 \\ x & x\omega & x\omega^2 & xy & xy\omega & xy\omega^2 \end{bmatrix}$$

exists for any prime  $p \equiv 1 \pmod{72}$  such that  $p < 10^7$  with the following twelve exceptions:

73, 433, 577, 937, 1009, 1153, 1297, 1657, 2089, 3313, 3529, 7489.

Indeed, for  $p \in \{577, 1009, 2089, 3313, 3529, 7489\}$ , such a  $(p, L_{2,6}, 1)$ -DF does exist, as given in Table 1.

TABLE 1. Parameters for  $(p, L_{2,6}, 1)$ -DFs with initial block  $B$

$p$	$\omega$	$x$	$y$	$p$	$\omega$	$x$	$y$
577	363	233	309	3313	2189	159	2238
1009	374	26	249	3529	3080	2301	2711
2089	1262	1585	1133	7489	5021	2357	79

This mistake has no effect on the subsequent parts of the paper. A correction of the first three lines of Remark 1 in [1] is given as follows:

*Remark 0.1.* For  $r = u = 2$ , we have checked that Theorem 4 can be applied for any prime  $p \equiv 1 \pmod{72}$  such that  $p < 10^7$  and  $p \notin P$ , where  $P = \{73, 433, 937, 1153, 1297, 1657\}$ .

This fact has also been pointed out in §2.6 of [2]. The author would like to thank Marco Buratti for pointing out the mistake.

## REFERENCES

- [1] X.-N. Lu. Improving the existence bounds for grid-block difference families. *Graphs Combin.*, 33(3):549–559, 2017.
- [2] X.-N. Lu, J. Satoh, and M. Jimbo. Grid-block difference families and related combinatorial structures. *Discrete Math.*, 342(7):2023–2032, 2019.

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