

# A NOTE ON CONFIGURATIONS OF $(-2)$ -VECTORS ON ENRIQUES SURFACES: COMPUTATIONAL DATA

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This note explains the contents of the computational data about the results of the paper [3]. The data is available at

<http://www.math.sci.hiroshima-u.ac.jp/~shimada/K3andEnriques.html>

in the text file `L10L26compdata2.txt`. This data is a supplement of the data `L10L26compdata.txt`, which is for the joint paper [1] with S. Brandhorst, which is also available at the same website, and whose explanation is given in [2]. In this new data `L10L26compdata2.txt`, we use the Record-format of GAP [4].

## 1. THE DATA

The data `L10L26compdata2.txt` is a list of 16 records, each of which corresponds to a primitive embedding of  $L_{10}(2)$  into  $L_{26}$  not of type `infy`. Each record `irec` has the following items.

- `irec.name` is the name of the embedding ("`12A`", "`12B`", ..., "`96C`").
- `irec.GramL26` is the Gram matrix of  $L_{26}$ .
- `irec.GramL10` is the Gram matrix of  $L_{10}$ .
- `irec.embS` is the  $10 \times 26$  matrix  $M$  such that  $v \mapsto vM$  is the embedding  $L_{10}(2) \hookrightarrow L_{26}$ .
- `irec.walls` is the list  $\Gamma$  of  $(-2)$ -vectors of  $L_{10}$  defining the walls.
- `irec.configuration` is the matrix of the intersection numbers  $\mu: \Gamma \times \Gamma \rightarrow \mathbb{Z}$  of  $(-2)$ -vectors defining the walls.
- `irec.generatorsaut` is a set of generators of  $\text{Aut}(\Gamma, \mu)$ . Each element of  $\text{Aut}(\Gamma, \mu)$  is written as a permutation of  $\Gamma$ .

*Remark 1.1.* The item `irec.GramL10` does not depend on `irec`. The items `irec.name`, `irec.GramL26`, `irec.embS` are equal to the ones in the previous data `L10L26compdata.txt`. The item `irec.walls` is equal to `irec.walls` in the old version `L10L26compdata.txt` up to the ordering. The new ordering of `irec.walls` is the one given in [3].

## REFERENCES

- [1] Simon Brandhorst and Ichiro Shimada. Borchers' method for Enriques surfaces, 2019. Preprint, arXiv:1903.01087.
- [2] Ichiro Shimada. Borchers method for Enriques surfaces: computational data. <http://www.math.sci.hiroshima-u.ac.jp/~shimada/K3andEnriques.html>, 2018.
- [3] Ichiro Shimada. A note on configurations of  $(-2)$ -vectors on Enriques surfaces. <http://www.math.sci.hiroshima-u.ac.jp/~shimada/K3andEnriques.html>, 2019.
- [4] The GAP Group. *GAP - Groups, Algorithms, and Programming*. Version 4.8.6; 2016 (<http://www.gap-system.org>).

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