

ERRATA:
**A DATABASE OF BASIC NUMERICAL INVARIANTS
OF HILBERT MODULAR SURFACES**

ERAN ASSAF, ANGELICA BABEL, BEN BREEN, EDGAR COSTA,
JUANITA DUQUE-ROSETO, ALEKSANDER HORAWA, JEAN KIEFFER,
AVINASH KULKARNI, GRANT MOLNAR, SAM SCHIAVONE, AND JOHN VOIGHT

This note gives errata for the article *A database of basic numerical invariants of Hilbert modular surfaces* [1]. Thanks to Adam Logan for the corrections.

1. ERRATA

- (1) Acknowledgements: a comma is missing, should be “Helen Grundman, and the”.
- (2) (2.3.1): the index v should be i .
- (3) Proposition 3.3.8(b): V should be defined by $v^2 \equiv 1 \pmod{\mathfrak{M} + \mathfrak{M}/\mathfrak{N}}$.
- (4) Before Lemma 4.1.1: “ $R_{>0}^\times/R_{>0}^{\times 2}$ ” should be “ $R_{>0}^\times/R^{\times 2}$ ”.
- (5) Lemma 4.1.1(b): say “ $\gamma^2 = u^{-1}\zeta \in R[\gamma]$ ” (to emphasize where the equality is taken).
- (6) Before (4.1.2), “in the aforementioned list, determine the number of embeddings of S into S ”: should be “ S into \mathcal{O} ”.
- (7) Proposition 4.2.3: it is clearer just to repeat the indexing on the orders S , so

$$m_q^1 = \frac{2^{n-1}}{h(R)} \sum_{S \supseteq R[\zeta_{2q}]} \frac{h(S)}{Q(S)} m(\widehat{S}, \widehat{\mathcal{O}}; \widehat{\mathcal{O}}^\times)$$

and

$$m_q^+ = \frac{2^{n-1}}{h^+(R)} \sum_{S \in \Omega_q} \sum_{\substack{S' \supseteq S \\ \#S'^\times/R^\times = q}} h(S') m(\widehat{S}', \widehat{\mathcal{O}}; \widehat{\mathcal{O}}^\times).$$

- (8) Before Theorem 4.3.11: the description of the class group should read “Then there is a surjection $\text{Cl}^+ R / (\text{Cl}^+ R)^2 \rightarrow \text{Cl}_{GN+(\mathcal{O})} R$, presenting this class group as the quotient of the narrow class group mod squares by the subgroup generated by primes $\mathfrak{p} \mid \mathfrak{N}$ with $\text{ord}_{\mathfrak{p}}(\mathfrak{N})$ odd.”

REFERENCES

- [1] Eran Assaf, Angelica Babel, Ben Breen, Edgar Costa, Juanita Duque-Rosero, Aleksander Horawa, Jean Kieffer, Avinash Kulkarni, Grant Molnar, Sam Schiavone, and John Voight, *A database of basic numerical invariants of Hilbert modular surfaces*, Contemp. Math., vol. 796, 2024, Amer. Math. Soc., Providence, RI, 285–312.

DEPARTMENT OF MATHEMATICS, DARTMOUTH COLLEGE, 6188 KEMENY HALL, HANOVER, NH
03755, USA

Email address: `assaferan@gmail.com`

DEPARTMENT OF MATHEMATICS & STATISTICS, MCMASTER UNIVERSITY, HAMILTON HALL, 1280
MAIN STREET WEST, HAMILTON, ON, L8S 4K1, CANADA

Email address: `babeia@mcmaster.ca`

SCHOOL OF MATHEMATICS AND STATISTICS, CLEMSON UNIVERSITY, CLEMSON, SC, 29631

Email address: `benjaminkbreen@gmail.com`

DEPARTMENT OF MATHEMATICS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE,
MA 02139-4307, USA

Email address: `edgarc@mit.edu`

DEPARTMENT OF MATHEMATICS, DARTMOUTH COLLEGE, 6188 KEMENY HALL, HANOVER, NH
03755, USA

Email address: `juanita.gr@dartmouth.edu`

MATHEMATICAL INSTITUTE, UNIVERSITY OF OXFORD, WOODSTOCK ROAD, OXFORD, OX2 6GG,
UK

Email address: `horawa@maths.ox.ac.uk`

DEPARTMENT OF MATHEMATICS, HARVARD UNIVERSITY, 1 OXFORD ST., CAMBRIDGE, MA
02138, USA

Email address: `kieffer@math.harvard.edu`

DEPARTMENT OF MATHEMATICS, DARTMOUTH COLLEGE, 6188 KEMENY HALL, HANOVER, NH
03755, USA

Email address: `avinash.a.kulkarni@dartmouth.edu`

DEPARTMENT OF MATHEMATICS, DARTMOUTH COLLEGE, 6188 KEMENY HALL, HANOVER, NH
03755, USA

Email address: `Grant.S.Molnar.GR@dartmouth.edu`

DEPARTMENT OF MATHEMATICS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE,
MA 02139-4307, USA

Email address: `sschiavo@mit.edu`

DEPARTMENT OF MATHEMATICS, DARTMOUTH COLLEGE, 6188 KEMENY HALL, HANOVER, NH
03755, USA

Email address: `jvoight@gmail.com`