

Erratum

Jonas Bergström

December 2, 2025

Erratum to:

Siegel modular forms of degree three and the cohomology of local systems

Together with Carel Faber and Gerard van der Geer.

Selecta Mathematica, 20 (1), (2014), 83-124.

An assumption was forgotten in Conjecture 7.7 (ii) and Conjecture 7.7 (iii). It should also say that b should be even. This was kindly pointed out to us by Olivier Taïbi, see [1, Remark 9.1.2].

Erratum to:

Siegel modular forms of genus 2 and level 2: cohomological computations and conjectures

Together with Carel Faber and Gerard van der Geer.

International Mathematics Research Notices, 100, (2008).

The table of examples in Section 9 on page 15 contains several errors. This was kindly pointed out to us by Aleksander Shmakov, see [2, p. 5]. Here is the correct table:

(l, m)	$e_c(\mathcal{A}_2[2], \mathbb{V}_{l,m})$
(0, 0)	$L^3 + L^2 - 14L + 16$
(2, 0)	$-30L + 30$
(1, 1)	$5L^3 - 10L^2 - 15$
(4, 0)	$-45L + 45 - 10L\Phi_{4,6}$
(3, 1)	$-30L^2 - 15\Phi_{4,6}$
(2, 2)	$9L^4 - 21L^3 + 30 - \Phi_{2,8}$
(6, 0)	$-60L + 60 - 31L\Phi_{2,8} - \Phi_{2,10}$
(5, 1)	$-45L^2 + 15 - 30\Phi_{2,8} - 20L^2\Phi_{4,6} - 5\Phi_{4,10}$
(4, 2)	$-45L^3 + 45 - S[\Gamma_2[2], (2, 5)]$
(3, 3)	$10L^5 - 35L^4 - 15 - 15\Phi_{4,6} - 5\Phi_{2,10}$
(8, 0)	$-75L + 75 - 25L\Phi_{4,10} - 40L\Phi_{2,10} - 5\Phi_{4,12}$
(7, 1)	$-60L^2 + 30 - 15\Phi_{4,10} - 30\Phi_{2,10} - 40L^2\Phi_{2,8} - S[\Gamma_2[2], (6, 4)]$
(6, 2)	$-60L^3 + 60 - 20L^3\Phi_{4,6} - S[\Gamma_2[2], (4, 5)]$
(5, 3)	$-60L^4 - 30\Phi_{2,8} - S[\Gamma_2[2], (2, 6)]$
(4, 4)	$15L^6 - 45L^5 + 30 + 15\Phi_{4,6} - 5\Phi_{4,12}$

Erratum to:

Equivariant counts of points of the moduli spaces of pointed hyperelliptic curves
Documenta Mathematica, **14**, (2009), 259-296.

There is an error in the formula in Example 7.10, and the formula should be:

$$a_{[6]}|_{g, \text{odd}} = -u_g^{((6);(1))} - u_g^{((3);(2))} - u_g^{((2);(1))} - u_g^{((1);(2))} = -q^{2g} - \frac{q^{2g+3}(q-1)}{q^2 - q + 1} +$$

$$- \frac{1}{q^2 - q + 1} \begin{cases} q^2 & \text{if } g \equiv 0 \pmod{3} \\ -q^2 - 1 & \text{if } g \equiv 1 \pmod{3} \\ 1 & \text{if } g \equiv 2 \pmod{3} \end{cases} + \begin{cases} q^2 + 1 & \text{if } g \equiv 0 \pmod{6} \\ q^4 - 2 & \text{if } g \equiv 1 \pmod{6} \\ q^6 - q^2 + q + 1 & \text{if } g \equiv 2 \pmod{6} \\ -q^6 - q^4 + q^3 - 1 & \text{if } g \equiv 3 \pmod{6} \\ 1 & \text{if } g \equiv 4 \pmod{6} \\ -q^3 - q & \text{if } g \equiv 5 \pmod{6} \end{cases}$$

References

- [1] O. Taïbi: The Euler characteristic of ℓ -adic local systems on \mathcal{A}_n , arXiv:2510.00656.
- [2] A. Shmakov: Cohomology of Local Systems on Siegel Threefolds with Square-Free Parahoric Level, Thesis (Ph.D.)—University of Georgia. ProQuest LLC, Ann Arbor, MI, 2024. 409 pp.