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Inventiones mathematicae

Corrigendum

q-Identities for Maass waveforms

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§**1.** There was an error in the formula given for χ_3 in Theorem 2.1 (ii). It should read instead

$$\chi_3(\alpha) = \begin{cases} i^{xy/2}\left(\frac{24}{x}\right) & \text{if } y/2 \text{ is even} \\ i^{xy/2+1}\left(\frac{24}{x}\right) & \text{if } y/2 \text{ is odd.} \end{cases}$$

The other formulas deduced from this such as (8) are unchanged.

I take this occasion to mention that the notation x^{-1} which is used in the paper is the inverse of x modulo 8, and that since x is odd, we have $x^{-1} \equiv x \pmod 8$, so one can replace everywhere x^{-1} by x.

§**2.** There were a number of sign errors, which again did not have any consequence since they came by pairs. The functional equation on top of page 412 should read

$$\Lambda(1-s) = \Lambda(s)$$

with a plus sign, and not a minus sign as in the paper. Indeed, instead of computing some Gauss sums, we can either use a theorem of Fröhlich–Queyrut [1] which tells us that for an orthogonal character the sign is always $+1$, or use the fact that $L(\chi_j, s)$ is equal to the quotient of two zeta functions.

This sign error is compensated on page 416 by another one. After shifting the line of integration and changing s into $-s$, the formula should read with C instead of $-C$ in front of the integral sign.

Similarly, on page 416 line -3 the correct functional equation is $\Lambda'(1-s) = \Lambda'(s)$, and on line 6 of page 417 the constant in front of the integral sign should read C' and not $-C'$, compensating the other sign error.

§**3.** Finally it has been pointed out to me by several people that reference [6], by T. Hiramatsu, is incorrect, hence that, contrary to what is stated on top of page 419, it does not seem possible to compute the dimension of the space of holomorphic forms of weight 1 from the dimension of the space of Maass forms of weight 0 and eigenvalue 1/4.

References

[1] Fröhlich, A., Queyrut, J.: On the functional equation of the Artin L-function for characters of real representations, Invent Math. **20** (1973) 125-138