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Corrections to : "Metaplectic forms"

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CORRECTIONS TO:

METAPLECTIC FORMS

by D. A. KAZHDAN *and* S. J. PATTERSON

(Publications Mathématiques, 59 (1984), 35-142)

Unfortunately the argument on pp. 119-120 of this paper were carried out too hastily as was pointed out to us by T. Suzuki. The assertion $\langle \lambda_{\eta_v}, v_{0,v} \rangle = 0$ $(\eta \notin \widetilde{H}_{*,v})$ is false which necessitates the following additional argument. For $v \notin S$ for which one has $|n|_v = 1$ and $\omega_{*,v} \mid \widetilde{H}_{*,v} \cap K_v^* = 1$ we have to have for consistency

$$\sum_{\eta_v \in \widetilde{H}_{*,v} \backslash \widetilde{H}_v} \mathbf{c}_{S \cup \{v\}}(\eta \times \eta_v) \langle \lambda_{\eta_v}, v_{0,v} \rangle = \mathbf{c}_S(\eta).$$

By Theorem I.4.2 and Proposition I.2.4 the left-hand side is equal to

$$\mathbf{c}_{S \cup \{v\}}(\eta \times I)(1 - q_v^{-1})(1 - q_v^{-2}) \ldots (1 - q_v^{-r})/(1 - q_v^{-1})^r.$$

Thus we can define

$$\mathbf{c}(\eta) = \lim_{S \uparrow} \mathbf{c}_S(\eta) \, T(S)$$

where

$$T(S) = \prod_{\substack{v \in S \\ v \nmid \infty}} (1 + q_v^{-1})(1 + q_v^{-1} + q_v^{-2}) \ldots (1 + q_v^{-1} + \ldots + q_v^{-(r-1)}).$$

The limit stabilises for large enough S. With this definition the formula of Theorem II.2.2 should read

$$\int_{N_{*,k}^{\ddagger} \backslash N_{*,A}^{\ddagger}} \bar{e}(n) \, \theta(n, f_0) \, dn = \lim_{S \uparrow} \sum_{\eta \in \widetilde{H}_{*,A(S)} \backslash \widetilde{H}_{A(S)}} \mathbf{c}(\eta) \, T(S)^{-1} \prod_{v \in S} \langle \lambda_{\eta_v}, f_{*,v} \rangle.$$

The same modifications should be made to Theorem II.2.3 and the discussion on p. 130. The second author would like to point out that the same applies to the survey « Whittaker Models of Generalised Theta Series » in *Sém. Théorie des Nombres de Paris 1982-1983*, Birkhäuser, 1984, pp. 199-232. This applies especially to § 4.7; the correction is already included in § 5.6.

The second author is compelled to admit that in this survey he was carried away by a now inexplicable bout of optimism; the conjecture proposed in § 6 cannot be true as stated. Nevertheless it does appear to be true when the functions on either side are restricted to an appropriately small subset of $\widetilde{H}_A$ as T. Suzuki has kindly informed us.

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