Erratum to "Linear and Shalika local periods for the mirabolic group, and some consequences"

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Abstract

We correct the proof of [M.14, Theorem 3.2].

In this proof, we claim that if the Δ_i's are ordered such that Δ_{i+1} does not precede Δ_i, then the same property holds for the segments $\Delta_i^{(n_i)}$, the argument being that the nonzero derivatives of Δ_i are obtained erasing the left end of Δ_i. This latter fact is indeed true, but it is not true in general that if Δ_{i+1} does not precede Δ_i, then $\Delta_i^{(n_i)}$ does not precede $\Delta_{i+1}^{(n_{i+1})}$, and immediate counter-examples can be obtained considering already two segments. However, the following is true. Write $\Delta_i = [\dots, \rho_i]$, and set $e(\Delta_i)$ for the real part of ρ_i's central character. Then if the Δ_i's are ordered such that $e(\Delta_{i+1}) \geq e(\Delta_i)$, then $e(\Delta_{i+1}^{(n_i)}) \geq e(\Delta_i^{(n_{i+1})})$ whenever $\Delta_i^{(n_i)}$ and $\Delta_{i+1}^{(n_{i+1})}$ are nonzero representations representations of (possibly different) G_k's with $k \geq 1$. Hence the class of representation to which we apply the induction is that of representations of the form $\Delta_1 \times \cdots \times \Delta_t$ with $e(\Delta_{i+1}) \geq e(\Delta_i)$, and this makes the arguments of the proof work (in particular for $n = 2$ and 3 where the representations $\mu|.|^{1/2} \times \mu|.|^{-1/2}$ and $\mu|.|^1 \times \mu|.|^0 \times \mu|.|^{-1}$ do not satisfy the $e(\Delta_{i+1}) \geq e(\Delta_i)$ condition).

Note that the result in question has been generalized to all quasi-split reductive groups in [P.18].

In the arxiv version https://arxiv.org/abs/1210.4307, the above correction has been incorporated. The proof of Proposition 4.1 which was to allusive has been corrected, as well as the argument in the proof of Theorem 4.1. to conclude that the epsilon factor is a unit.

References

[M.14] N. Matringe, *Linear and Shalika local periods for the mirabolic group, and some consequences*, J. Number Theory, Volume 138, May 2014, Pages 1-19.

[P.18] D. Prasad, *Generic representations for symmetric spaces*, https://arxiv.org/abs/1802.01397

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