ERRATUM TO: THE BERNSTEIN CENTER IN TERMS OF INVARIANT LOCALLY INTEGRABLE FUNCTIONS

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We correct some calculations in our paper "The Bernstein center in terms of locally integrable functions" [MT], in particular in section 3.6, which resulted in an incorrect formula for f'_{z_n}.

The last sentences of sections 3.4 and 3.5 should be deleted.

In section 3.5, in the line between (3.5.3) and (3.5.4), the correct expression for the minimal projector is $e_\Omega = \frac{1}{2} f_{z_0}$ and (3.5.4) is the formula for the minimal projector.

In 3.6 (and once in 3.5), we have written f_{e_n} for f_{z_n}, the locally integrable function representing the distribution $z_n \in \mathcal{Z}(G)$ associated to e_n.

The most important correction is in the computation of f'_{z_n} in 3.6. First, the normalization of measures in the distribution $\phi \mapsto z(\phi)$ is incorrect. The first term in the integral formula for $z(\phi)$, which preceeds (3.6.1), has to be multiplied by q^2. Hence, the term f'_{z_n} in (3.6.1) and all later formulae for f'_{z_n} should be multiplied by q^2. Also, a factor of $\frac{1}{2}$ is missing in the expression for $f'_{z_n}(g)$ after (3.6.2) and in all later formulae for f'_{z_n}.

The formula for the integral I_k is not correct for $k \leq -1$ (this is caused by an incorrect residue calculation). The correct formula follows immediately from the fact $I_k = I_{-k}$ (or by a direct calculation). This leads to a corrected (3.6.6), which should read $\frac{1}{2} f'_{z_0}(\operatorname{diag}(o, o^{-1})) = \frac{2}{|o^2 - 1|_F}$ and $\frac{1}{2} f'_{z_0}(\operatorname{diag}(\varpi^k o, \varpi^{-k} o^{-1})) = -q^{-k} \frac{q-1}{|\varpi^k o^2 - \varpi^{-k}|_F} = -q^{-2k}(q-1)$ when $k > 0$. From this we get that the minimal projector $e_\Omega = \frac{1}{2}(f'_{e_0} + f''_{e_0})$ satisfies

$$e_\Omega(g) = \begin{cases} \frac{2}{|o^2-1|_F} + (q-1)\check{\Theta}_{St_{\operatorname{SL}(2,F)}}(g) & \text{if } g \text{ is conjugate to } \operatorname{diag}(o, o^{-1}), \\ (q-1)\check{\Theta}_{St_{\operatorname{SL}(2,F)}}(g) & \text{if } g \text{ is is (regular) elliptic}, \\ 0 & \text{otherwise}. \end{cases}$$

The remark in the last paragraph of 3.6 should be: "The supports of the functions representing the minimal projectors of all the components are in the compact elements of G."

References

[MT] Moy, A., Tadić, M., *The Bernstein center in terms of invariant locally integrable functions*, Represent. Theory **6** (2002), 313–329. MR1979109 (2004f:22019)

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