CORRIGE FOR "MULTIPLICITY ONE AT FULL CONGRUENCE LEVEL"

DANIEL LE, STEFANO MORRA, AND BENJAMIN SCHRAEN

Without explicit mention, all the references are to the paper "Multiplicity one at full congruence level" available at `https://arxiv.org/pdf/1608.07987.pdf`

(1) At the end of the proof of Proposition 2.11, the equality $W^?(\tau) = W_{\mathrm{obv}}(\tau)$ does not follows from [Gee11, §4.2]. Rather, one should combine [GHS, Exemple 7.1.7] and [Her09, Theorem 11.3].

(2) The statement of Proposition 3.3 should be corrected as follows:
   (a) The condition that $\langle \lambda - \eta, \alpha^\vee \rangle > 0$ for at least one positive coroot $\alpha^\vee$ can be removed.
   (b) In item (2), the isomorphism should read

   $$R_\lambda \otimes F(\omega) \cong \oplus_{\nu \in \mathrm{JH}(L(\omega)|_T)} R_{\lambda + \nu}$$

   and, moreover, $R_{\lambda + \nu} \cong P_{F(\lambda - \eta + \nu)}$ if $F(\lambda - \eta + \nu)$ is not a character. (We are grateful to Florian Herzig who pointed this out to us.)

(3) In item (5.1) and the discussion after it, the variety X_K should be replaced by its quotient by the action by the finite group $(\mathbf{A}_F^\infty)^\times / (F^\times)((\mathbf{A}_F^\infty)^\times \cap K)$.

(4) The reference to [BD14, proof of Lemma 6.2] at the beginning of page 17 should be replace by [BD14, proof of Lemma 3.6.2].

(5) At page 17, the limit

$$S_\psi(K^v, \mathbf{F}) : \varinjlim_{U_v \leq K_v} S_\psi(K^v U_v), \mathbf{F})$$

   is taken over sufficiently small compact open subgoups U_v of K_v in order to ensure that the representation belongs to $\mathrm{Rep}_{\mathbf{F}}^\psi(K_v)$.

(6) At page 17, the Hecke operators $T_w^{(1)}$ are only defined for places $w \in S' \cup \{w_1\}$ which are distinct from v.

(7) Proof of Lemma 4.5: after the sentence "Let $\kappa = F(\mu - \eta)$ so that $P_\kappa = R_\mu$." one should insert the following sentence: Let θ be the restriction of the surjection $\oplus_{\kappa \in W^?(\overline{\rho}^\vee(1))} P_\kappa \twoheadrightarrow D_0^\vee$ to P_κ. After that, the adverb "Thus" should be replaced by "We conclude".

REFERENCES

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[GHS] Toby Gee, Florian Herzig, and David Savitt, *General Serre weight conjectures*, Journal of the EMS, (to appear).

[Her09] Florian Herzig, *The weight in a Serre-type conjecture for tame n-dimensional Galois representations*, Duke Math. J. **149** (2009), no. 1, 37–116. MR 2541127 (2010f:11083)

DEPARTMENT OF MATHEMATICS, PURDUE UNIVERSITY, 150 N. UNIVERSITY STREET, WEST LAFAYETTE, IN 47907-2067
    Email address: `ledt@purdue.edu`

LAGA, UMR 7539, CNRS, UNIVERSITÉ PARIS 13 - SORBONNE PARIS CITÉ, UNIVERSITÉ DE PARIS 8, 99 AVENUE JEAN BAPTISTE CLÉMENT, 93430 VILLETANEUSE, FRANCE
    Email address: `morra@math.univ-paris13.fr`

UNIVERSITÉ PARIS–SACLAY, CNRS, LABORATOIRE DE MATHÉMATIQUES D'ORSAY, 91405, OR- SAY, FRANCE
    Email address: `benjamin.schraen@universite-paris-saclay.fr`