WEIGHT CYCLING AND SERRE-TYPE CONJECTURES FOR UNITARY GROUPS (ERRATUM)

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(1) In the statement of Prop. 4.5.2, the statement "$\varphi^{[F_w:\mathbb{Q}_p]}$ acting on the $\overline{\mathbb{Q}}_p$-vector space $\mathrm{D}_{\mathrm{cris}}(\rho)$ has characteristic polynomial

$$(X^n + \cdots + (-1)^n q_w^{n(n-1)/2} t_n)^{[F_w:\mathbb{Q}_p]},"$$

should be replaced by "$\varphi^{-[F_w^0:\mathbb{Q}_p]}$ acting on the $\overline{\mathbb{Q}}_p$-vector space $\mathrm{D}_{\mathrm{cris}}(\rho)$ has characteristic polynomial

$$(X^n + \cdots + (-1)^n q_w^{n(n-1)/2} t_n)^{[F_w^0:\mathbb{Q}_p]}."$$

(There are two changes: one is the sign and the other is to replace F_w by F_w^0 on both sides.)

In the proof, replace ρ by $\rho^\vee$ so that the τ-Hodge–Tate weights become $\lambda_{\tau,n} < \lambda_{\tau,n-1} + 1 < \cdots < \lambda_{\tau,1} + n - 1$, as is used near the end of the proof.

As a consequence, replace $\varphi^{[F_w:\mathbb{Q}_p]}$ by $\varphi^{-[F_w:\mathbb{Q}_p]}$ in Axiom $\tilde{\mathrm{A}}2$, noting that $F_w = F_w^0$ there. In verifying Axiom $\tilde{\mathrm{A}}2$, in the second paragraph of the proof of Prop. 7.4.4, again replace $\varphi^{[F_w:\mathbb{Q}_p]}$ by $\varphi^{-[F_w:\mathbb{Q}_p]}$. (Note that by definition of WD, the action of Frob_w on $\mathrm{WD}(r_\pi|_{G_{F_w}})^{\oplus[F_w^0:\mathbb{Q}_p]}$ matches the action of $\varphi^{[F_w^0:\mathbb{Q}_p]}$ on $\mathrm{D}_{\mathrm{cris}}(r_\pi|_{G_{F_w}})$.)

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