

Errata to “Galois representations and (φ, Γ) -modules”

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1. Page 5, line -8: $W(\mathbb{F}_q)_L = 0$.
2. Proof of Lemma 1.1.2, third line: Replace π_L with π .
3. Proof of Prop. 1.1.21, line 3: $\mathbf{b} \notin V_1(B)_L$.
4. Page 34, first line: Replace $L'_n \subseteq L_n$ with $L_n \subseteq L'_n$.
5. Page 37, line 3: The term under the sum has to read $c_{r,s} z_n^r \tilde{z}_{n-m}^s$.
6. Page 38, line 7: $E \times E \longrightarrow F$.
7. Proof of Prop. 1.4.7: Replace $o_K/\varpi^n o_K$ with $o_K/\varpi o_K$ (twice).
8. Page 49, lines -6/-5: $\mathbb{C}_p^b \xrightarrow{\simeq} \varprojlim_{(\cdot)_q} \mathbb{C}_p$.
9. Page 52, line -2: Replace $|\varpi^b|^{q^m}$ with $|\varpi^b|_b^{q^m}$.
10. Page 53, line before Lemma 1.4.18: $b = \dots$
11. Page 59, line -3: Replace α_{n-1}^\sharp with α_{n+1}^\sharp .
12. Page 59, line -3: $|\gamma_0|_b$.
13. Page 60, line 2: value
14. Page 74, line 9: $N_{K_0} = \text{Gal}(\overline{\mathbb{Q}_p}/K_0)$.
15. page 78, line -6: Replace §3.2 with §II.3.2.
16. Page 81, third displayed formula: Replace \subseteq with \in .
17. Page 81, fourth displayed formula: Replace twice $[b]_\phi$ with $[b]_\phi(X)$.
18. Page 87, last line in proof of remark 2.1.5: Replace the first occurrence of o_{K^b} with K^b .
19. Page 88, line -4: Replace $G(\alpha) \in \mathbb{M}_{\mathbf{E}_L^{1/q}}$ with $G(\alpha) \in o + \mathbb{M}_{\mathbf{E}_L^{1/q}}$.
20. Page 100: Change the sentence after the diagram into: By assumption α^m is continuous, and all the other maps except possibly the lower left horizontal arrow and β are \mathbf{A}_L -linear and hence continuous.

21. Page 101, last sentence in Remark 2.2.5: Delete “By Exercise 2.2.3(3)”, so that the sentence starts “Any homomorphism ...”.
22. Page 103, statement of Lemma 2.2.10:
 - In part (ii) delete “each of which is Γ_L -invariant”.
 - Add a part (iii): $X^j M^{++}$, for any $j \in \mathbb{Z}$, is Γ_L -invariant.
23. Page 106:
 - Line 5: delete “first part of the”.
 - Line 8: Begin a new paragraph by adding “(iii)” in front.
 - Line 9: Add “(cf. Lemma 1.7.1(i))” before “the same then holds”.
 - Paragraph after Remark 2.2.11: Replace all “ L ” (on the line, not as subscript) by “ N ” (5 times).
 - Lines -7/-6: Change the second sentence into: By Lemma 2.2.10(iii) both, ...
24. Page 109, line -9: replace $[\chi_L(\gamma)]_\phi$ with $[\chi_L(\gamma)]_\phi$.
25. Page 120, line -7: In the displayed formula replace \subseteq with \in .
26. Page 121, third displayed formula: In the last line delete the first two occurrences of m_i .
27. Page 122, line -8: Replace the second occurrence of “weak” with “ π -adic”.
28. Page 125:
 - First displayed formula: In line 1 it should be $h \in G$ under the summation, and in line 2 replace the second occurrence of “ g_1 ” with “ g_2 ”.
 - Second displayed formula: Delete “ h ,”.
 - Last line: $c_i(g) = g(x_i) - x_i$.
29. Page 126, statement of Cor. 3.2.3: Replace $\text{Rep}_o(G_L)$ with $\text{Rep}_k(G_L)$.
30. Corollary 3.2.6: Replace \mathbf{A}_L with \mathbf{E}_L (twice).
31. Page 137: Update of the references:
 - 1: Documenta Math. 22, 999-1030 (2017).
 - 4: In “Elliptic Curves, Modular Forms and Iwasawa Theory”, in honour of J. Coates’ 70th birthday (Eds. Loeffler, Zerbes). Springer Proc. in Math. 188, pp. 401-468 (2016).
32. Page 139, line -3: Cherbonnier and Colmez.
33. Page 145: Update of reference [SV]: In “Elliptic Curves, Modular Forms and Iwasawa Theory”, in honour of J. Coates’ 70th birthday (Eds. Loeffler, Zerbes). Springer Proc. in Math. 188, pp. 401-468 (2016).

Comments:

- 5.6.2017: Udi de Shalit points out that the proof of Lemma 3.1.3 with $C = \mathcal{B}_L$ and $\sigma = \varphi_L$ on $o_C = \mathcal{A}_L$ gives a more direct construction of the embedding $j : \mathcal{A}_L \hookrightarrow W(\mathbf{E}_L)_L$.