ERRATA: PERIODIC LOCALLY COMPACT GROUPS

Abstract. List of errata in our book.

Part I: Background Information on Locally Compact Groups

p. 11: Proposition 1.22(i): The word "OPEN" must be dropped, as the example $G = \mathbb{Z}$ with $U = \{0\}$ shows. The statement is correct in its entirety if G is compact. The openness of $\mathcal{SUB}(U)$ is not used in the sequel. Details can be found in [HJ20]..

p. 65: Theorem 3.34: holds only if the finitely generated subgroup is pure, see [HHR19a, Theorem 4.16]. Indeed, let $G = \prod_{k\geq 1} \mathbb{Z}(p^k)$ and let $t := (1, 1, 1, \ldots)$ be the element with coordinates the respective generators of the cyclic groups $\mathbb{Z}(p^k)$ with $k \geq 1$. Then $\overline{\langle t\rangle}$ cannot split as a direct factor: indeed, if $G = \overline{\langle t\rangle} \oplus A$ then factoring A implies that we can map G onto $\overline{\langle t\rangle} \cong \mathbb{Z}_p$. But this is impossible, as all torsion elements of G belong to the kernel and so does G.

p. 83: Lemma 3.74(ii): ... is a direct sum of N copies of the ....

p. 84: In the formula $(*)$ 3 lines above the bottom: Replace "I" by "m".

Part II: Near Abelian Groups

p. 127: 3rd line: Replace "termed them "t-cyclic)" – a ..." by "termed them "t-cyclic)" – a ...".

p. 127: Formula in the last line: replace ":" by ",".

Part III: Applications

p. 229: Line 1: Replace "completing" by "reporting".

p. 237: In the line before Example 12.16: Replace "with" by "which".

p. 249: Theorem 13.12(b): Replace "the p-component T_p" by "for $p \in \phi$ the p-component T_p".

p. 273: Theorem 14.22: A compact factor A_γ might appear in the decomposition. See [HHR18, Theorem 1.5] which corrects this omission.

p. 279: Theorem 14.28: An abelian factor G_α is missing. A corrected version can be read off from [HHR19b, Theorem 1.1].

p. 281: ff.: Without additional assumptions Proposition 14.31 is not correct. A correct version of the classification of all totally disconnected locally compact strongly topologically quasihamiltonian groups is Theorem 1.1 in [HHR19b].

Last update on Friday 27th September, 2019

References

[HHR18] Wolfgang Herfort, Karl H. Hofmann, and Francesco G. Russo. When is the Sum of Two Closed Subgroups Closed in a Locally Compact Abelian Group. submitted., 2018.

[HHR19a] Wolfgang Herfort, Karl H. Hofmann, and Francesco G. Russo. Locally compact abelian p-groups. *Topology Appl.*, 259:203–241, 2019.

[HHR19b] Wolfgang Herfort, Karl H. Hofmann, and Francesco G. Russo. Locally Compact Groups with Permutable Closed Subgroups. submitted., 2019.

[HJ20] Hatem Hamrouni and Z. Jlalii. Locally compact groups with compact open subgroups having an open chabauty space. *J. Lie Theory*, 30(1):8 pp., to appear, 2020.