I. D. Berg
L. A. Rubel

Densities on locally compact abelian groups


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We wish to thank M. Rajagopalan for pointing out the following three errors and for indicating that if one assumes that G is σ-compact, then the defective half of the proof of Lemma 2.1 is repaired. None of these errors has any consequences for the rest of the paper.

First, Lemma 2.1 is partially incorrect. However, we use only the correct « only if » part in the rest of the paper. This lemma should say that if \( f \in C(G) \) and if \( f \in P(G) \) then the orbit of \( f \) is compact. If, further, G is σ-compact and if the orbit of \( f \) is compact, then \( f \in P(G) \). This follows from the line of argument given in the paper, but using in addition Theorem 5.29 of [5, p. 42], which guarantees that the uniform topology on \( \theta \) as the orbit of \( f \) coincides with the quotient topology of \( \theta \) as the range of \( \varphi \).

Secondly, the example in the Remark following Corollary 2.11 must be changed slightly. Take \( g_1 \) and \( g_2 \) as before, but let \( g_3 = (\sqrt{2}, \sqrt{3}) \). Then each element of G is discrete and each pair of elements of G generates a discrete subgroup of G, but \( [g_1, g_2, g_3] \) is not discrete.

Finally, in the « conversely » part of Lemma 3.1, it must be stated that the linear functionals \( \{\mu_x | x \in A\} \) are assumed to be compatible in the obvious sense. The compatibility is explicitly used in the proof.