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Topological groups without infinite precompact continuous homomorphic images. (English)

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A topological group is minimally almost periodic if all continuous homomorphisms of it to compact topological groups are trivial. The author generalizes this to minimally almost periodic modulo a property P: the image of the group under every homomorphism of it to a compact group must have property P. He then considers the following five properties: having one point, being finite, being compact, being connected, having bounded torsion, and being torsion.

Examples show that none of the obvious implications between these notions (that mirror the implications between the underlying properties) can be reversed. The author also shows that every abelian group admits a Hausdorff topology that is minimally almost periodic modulo finite. For what groups this can be done for the other properties is left as an open question.

Reviewer: K. P. Hart (Delft)

MSC:

22A05 Structure of general topological groups
54B35 Extensions of spaces (compactifications, supercompactifications, completions, etc.)
54H11 Topological groups (topological aspects)

Keywords:

minimal almost periodic; maximally almost periodic; MAP group; von Neumann kernel; Bohr topology; Bohr compactification; categorical reflection; precompact group

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References:


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