Summary: We continue the study of $\mathcal{M}$-factorizability in topological groups started in [18], with a special emphasis on feathered groups. It is shown that a feathered group $G$ is $\mathcal{M}$-factorizable if and only if $G$ is either metrizable or $\mathbb{R}$-factorizable. We also prove that an $\mathcal{M}$-factorizable Čech-complete subgroup $H$ of a topological group $G$ is $C$-embedded in $G$. We show that the product $G = \prod_{n \in \omega} G_n$ of countably many $\mathcal{M}$-factorizable feathered groups is $\mathcal{M}$-factorizable if and only if all the factors are metrizable or $\mathbb{R}$-factorizable. We also show that continuous $d$-open homomorphisms preserve $\mathcal{M}$-factorizability.

MSC:

22A05 Structure of general topological groups
54A25 Cardinality properties (cardinal functions and inequalities, discrete subsets)
54H11 Topological groups (topological aspects)
54A35 Consistency and independence results in general topology

Keywords:
$\mathcal{M}$-factorizable group; $\mathbb{R}$-factorizable group; $PT$-group; feathered group; $d$-open homomorphism

Full Text: DOI

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