Pestov, Vladimir G.
A note on the groups of finite type and the Hartman-Mycielski construction. (English)
Zbl 1475.22003

A Polish topological group is of finite type if it topologically embeds into the unitary group, $U(A)$, of a finite von Neumann algebra, equipped with strong topology. Any such group $G$ is a SIN group. The group $G$ is unitarily representable, that is, it admits a unitary representation $\pi : G \to U(\mathcal{H}_\pi)$ that is an embedding of topological groups concerning the strong operator topology.

In the paper under review, the author considers the following notation:

$$L^0(X, \mu; G) := \left\{ f : X \to G \mid f \text{ is continuous and } \forall \varepsilon > 0 \exists K \subseteq X \text{ compact } : \mu(K) > 1 - \varepsilon \right\},$$

where $(X, \mu)$ is a standard Lebesgue space, so, the author proves the following statement:

If $G$ is an unitarily representable Polish group, then $L^0(X, \mu; G)$ is unitarily representable as well.

Reviewer: Ali Morassaei (Zanjan)

MSC:
22A10 Analysis on general topological groups

Keywords:
group of finite type; SIN group; unitarily representable group; Hartman-Mycielski construction

Full Text: DOI

References:


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