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Abstracts of Short Communications and Posters

Section:

7. Lie Groups and Lie Algebras

1991 MS Classification: 22, 43, 46, 58
Litvinov, Grigori L., International Sophus Lie Centre, Moscow, Russia:
Group algebras and nonunitary representations of smooth groups.

A collection of topological group algebras will be presented for smooth groups including all regular infinite dimensional Lie groups [1]. Continuous linear representations of these algebras correspond to some classes of group representations. For example, the dual space $D(G)$ to the space of all smooth functions on a smooth group G is an algebra of this type. Continuous linear representations of $D(G)$ correspond to smooth representations of G. All basic results on nonunitary representations of finite dimensional Lie groups [2] can be extended to the general case of smooth groups.
References: [1]. A. Kriegl, and P. Michor, The Convenient Setting of Global Analysis, AMS, 1997. [2]. G. L. Litvinov, *Selecta Math. Sov.* **7 1** (1988), 101-182.