Mathematics > Representation Theory

Categories of unitary representations of Banach-Lie supergroups and restriction functors

Stephane Merigon, Karl-Hermann Neeb, Hadi Salmasian

(Submitted on 5 Jul 2011)

We prove that the categories of smooth and analytic unitary representations of Banach--Lie supergroups are well-behaved under restriction functors, in the sense that the restriction of a representation to an integral subsupergroup is well-defined. We also prove that the category of analytic representations is isomorphic to a subcategory of the category of smooth representations. These facts are needed as a crucial first step to a rigorous treatment of the analytic theory of unitary representations of Banach--Lie supergroups. They extend the known results for finite dimensional Lie supergroups. In the infinite dimensional case the proofs require several new ideas. As an application, we give an analytic realization of the oscillator representation of the restricted orthosymplectic Banach--Lie supergroup.

Subjects:	**Representation Theory (math.RT)**; Mathematical Physics (math-ph)
MSC classes:	17B65, 22E66
Cite as:	**arXiv:1107.0988 [math.RT]**
	(or **arXiv:1107.0988v1 [math.RT]** for this version)

Submission history

From: Hadi Salmasian [view email]
[v1] Tue, 5 Jul 2011 20:37:24 GMT (36kb)

Which authors of this paper are endorsers?