



Mathematics > Functional Analysis

Stable states and representations of the infinite symmetric group

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We introduce the notion of stable representations, -- it is a new class of the representations of a certain class of groups which defined with positive definite functions which generalize the classical notion of the characters (or trace). We give the complete description of this class for infinite symmetric group $\mathfrak{S}_{\mathbb{N}}$. It happened the family of the stable representations of $\mathfrak{S}_{\mathbb{N}}$ coincides with the set of representations of the components (left or right) of the admissible representations of the double-group in the sense of Ol'shanski. In particular all these are representation of type II which was open question for many years.

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