

Invariant integration on homogeneous superspaces

Vera Serganova

1. Abstract

We use Berezin integral in the category of CS-manifolds to construct an invariant integral for the ring of regular functions on a homogeneous affine supervariety G/K . This construction has several applications in representation theory of G . We will explain how it is used in the proof of projectivity detection for support varieties and for description of stable categories for defect 1 supergroups. We also see how this integral can be used to generalize some classical statements from modular representation theory of finite groups to supergroups in characteristic zero. This is joint work with A. Sherman and D. Vaintrob.