

Categories of graded manifolds and n -fold vector bundles

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Abstract

A graded manifold of type Δ is a generalization of the notion of a graded manifold of degree n and an n -fold vector bundle. Here Δ is a certain finite weight system. Graded manifolds were used for instance by P. Ševera, D. Roytenberg, Li-Bland and H. Bursztyn in the context of Lie and Courant algebroids.

Our talk is devoted to a description of our recent result about an equivalence between the category of graded manifolds of type Δ and a subcategory of the category of n -fold vector bundles. This result is essentially combinatorial in nature. Instead of working with manifolds and iterated bundles, we deal with the weight system Δ and its combinatorics.

We will give a short overview of the notion of Lie and Courant algebroids, then we will consider some examples of graded manifolds of type Δ . In we have time we will prove the theorem about equivalence in a particular case.