

1131-18-224

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Cardwell Hall, Manhattan, KS 66506, and **Timothy Logvinenko**. *Bar categories of modules*.

Given a DG-category A we introduce the *bar category of modules* over A . It is a DG-enhancement of the derived category $D(\text{Mod} - A)$ which is isomorphic to the category of DG A -modules with A_∞ -morphisms between them. However, it is defined intrinsically in the language of DG-categories and requires no complex machinery or sign conventions of A_∞ -categories.

The intended application is working with DG-bimodules as enhancements of exact functors between triangulated categories. In particular, using bar categories allows us to construct explicitly homotopy adjunctions lifting pairs of adjoint exact functors and prove the existence of natural Postnikov towers for certain differential complexes of exact functors. Such techniques can be instrumental in working with categorical representations of Lie algebras since pairs of adjoint functors arise naturally there. (joint work with T. Logvinenko) (Received July 15, 2017)