Super Vertex Algebras and Super Curves

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Abstract

In the book "Vertex Algebras and Algebraic Curves", E. Frenkel and D. Ben-Zvi show a deep connection between some algebraic objects (vertex algebras) and some geometric objects (factorization algebras). The latter concists in particular of vector bundles over algebraic curves. The purpose of this talk is to generalize this concepts to the category of "super curves". As a first step, we need to incorporate the "odd coordinates" of the super-curve into the fields of our vertex algebras.