On a Cohomology Strategy for the Integration of Lie 2-algebras

Camilo Ângulo[1]

[1] USP

A Lie 2-algebra is a groupoid object in the category of Lie algebras. These can naturally be seen as an infinitesimal version of Lie 2-groups which are groupoids in the category of Lie groups. Lie 2-algebras are known to be integrable in this sense. In order to understand this integration process from a cohomological point of view, we present appropriate notions of representations for both Lie 2-groups and Lie 2-algebras, and the corresponding complexes whose cohomologies classify extensions. Finally, we discuss a van Est type theorem for a class of representations.