



Poster

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Categorical models for proper 2-types

The study and classification of non compact manifolds can be done in some cases by using proper homotopy invariants. In this poster we present a study of algebraic models for proper 2-types using two kinds of categorical groups induced by the space of non negative integer numbers and the space of non negative real numbers, respectively. Firstly we construct these algebraic models and the corresponding versions for higher dimensions and give a long exact sequence that contains some relations between these categorical groups associated to a space with a base ray. The aim of our work is to find out the additional algebraic structure of these categorical groups which is necessary to obtain algebraic models for proper 2-types.

References:

- [1] J. García Calcines, M. García Pinillos, L.J. Hernández, Closed model categories structures for exterior and proper homotopy, *Appl. Cat. Struct.* (2004) 225-246.
- [2] A. R. Garzón, J. G. Miranda, A. Del Río, Tensor structures on homotopy groupoids of topological spaces, *International Mathematical Journal* 2, 2002, pp. 407-431.

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