A Quillen model structure for orbifolds

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(This is join work with Cristina Costoya)

We discuss the existence of Quillen model structures on the category of (certain kind of) topological groupoids. Our weak equivalences will be the essential equivalences and the homotopy essential equivalences. Fibrant objects will be described in terms of orbifolds as groupoids [2]. We present a bicategorical approach which relates the bicategory of fractions of Pronk [3] and the notion of a model Cat-category for 2-categories of Lack [1].

References

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- [3] D. A. Pronk, Etendues and stacks as bicategories of fractions, Compositio Mathematica 102 no. 3 (1996), 243–303.