

Alexander Campbell  
Macquarie University

*A homotopy coherent cellular nerve for bicategories*

The subject of this talk is a homotopy coherent cellular nerve for bicategories, first defined by Leinster [1], which we show defines a fully faithful functor from the category of bicategories and normal pseudofunctors to the category of presheaves over Joyal’s category  $\Theta_2$  [2]. We show that this functor restricts to the right part of a Quillen adjunction between Lack’s model structure for bicategories [3] and Ara’s model structure for 2-quasi-categories [4] (a model for  $(\infty, 2)$ -categories), and hence that the homotopy coherent nerve of a bicategory is a 2-quasi-category. Moreover, we show that the composite of this adjunction with an adjunction due to Ara is a Quillen equivalence between Lack’s model structure for bicategories and Rezk’s model structure for “weak 2-categories” on the category of simplicial presheaves over  $\Theta_2$  [5].

REFERENCES:

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