
STEVE LACK, University of Western Sydney, Locked Bag 1797, Penrith South DC NSW 1797, Australia

Partial maps in higher-dimensional categories

Given a category C with a suitable class M of morphisms, one obtains a corresponding notion of partial map, where the M 's provide the possible domains of definition. Typically the M 's will be monomorphisms.

If C has higher-dimensional structure (for example if it is a bicategory or tricategory) then new phenomena occur; among other things, one might expect to interpret the condition that the M 's be monomorphisms in a relaxed way suitable for a bicategory or tricategory.

In this talk I will focus on the case where C is the (2-)category of categories and where C is a certain category of bicategories. In particular I will describe how “partial morphisms of bicategories” are the same thing as the “2-sided enrichments” of Kelly, Labella, Schmitt, and Street.