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*Monoidal homotopy bicategories via 2-fibrations*

A strength of  $(\infty, n)$ -categories lies in the rich coherence data encoded by the higher cells. However, for certain applications, it can be useful to consider the associated homotopy  $(n, n)$ -category, which retains much of the structure while simplifying the complexity. In low dimensions, a problem of interest is to give a description of this  $(n, n)$ -category in terms of algebraic models, particularly when some degree of monoidality is involved.

In this talk, I will present an algebraic description of the homotopy *monoidal* bicategory associated to an  $(\infty, 2)$ -category, modeled as 2-fold complete Segal space. To do this, we rephrase monoidal bicategories as certain Buckley fibrations over the simplicial category  $\Delta$  via a weak bar construction. Then, by viewing monoidal  $(\infty, 2)$  as analogous fibrations over  $\Delta$ , we adapt Romo's homotopy bicategory construction to describe the underlying monoidal bicategory. This framework also extends naturally to the symmetric setting.