# GRAY TENSOR PRODUCTS AND LAX FUNCTORS OF $(\infty, 2)$-CATEGORIES

EDOARDO LANARI

We give a definition of the Gray tensor product in the setting of scaled simplicial sets which is associative and forms a left Quillen bifunctor with respect to the bicategorical model structure of Lurie. We then introduce a notion of oplax functor in this setting, and use it in order to characterize the Gray tensor product by means of a universal property. A similar characterization was used by Gaitsgory and Rozenblyum in their definition of the Gray product, thus giving a promising lead for comparing the two settings.

This is a report on joint work with A.Gagna and Y.Harpaz.