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Luis Pereira* (luisalexandreperreira@outlook.com), Office 034, Physics Building, Duke University, Durham, NC 27708. *On models for equivariant operads with norm operations.*

Work of Cisinski-Moerdijk has established an equivalence between the homotopy theory of colored simplicial operads and the homotopy theory of ∞ -operads, which can be regarded as “operads where composition is only defined up to homotopy”. At the center of their work is the identification of a category Ω of trees, whose objects are tree diagrams that encode “composition of operations in an operad”. When given a group G and working in the context of G -equivariant operads, some caution is required when identifying the “correct” notion of weak equivalence, since equivalences need to detect an additional piece of structure called “norm operations”. In joint work with Peter Bonventre, we identified a category Ω_G of G -trees, a non-trivial generalization of Ω , whose objects are diagrams that encode “composition of norm operations in a G -operad”. This talk will discuss alternative models for the homotopy theory G -equivariant simplicial colored operads suggested by Ω_G , namely the homotopy theory of G - ∞ -operads, which can be regarded as “ G -operads where composition of norm operations is only defined up to homotopy”. (Received January 20, 2020)