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*A Search for Model Structure for A-Homotopy Theory*

A-homotopy theory is a proposed homotopy theory for simple graphs. The foundations of this theory were first developed by Ron Artin in the 1970s and further developed by Barcelo et. al. in the early 2000s. The literature has primarily focused on defining A-homotopy groups and finding ways to compute them. In this talk, I will give a brief introduction to A-homotopy theory with some examples and discuss the search for a model structure on the category  $\text{GPH}$  that would correspond to this theory. If found, this model structure would give us all the machinery to work in A-homotopy theory that has yet to be developed.