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**Robert C. Housden, Jr.\*** (rhousden@math.ucla.edu). *Replacing “Group” with “Category” in Equivariance.* Preliminary report.

In Equivariant Homotopy Theory, one often considers a space,  $X$ , (or spectrum) suitably equipped with an action of a (often finite) group,  $G$ . This can often be encoded as a functor,  $X : G \rightarrow \text{Top}$ , from  $G$  to the category of topological spaces. In this framework, one need not require  $G$  to be a group and can instead replace  $G$  with an arbitrary category,  $D$ . This talk will explore that generalization, in particular with how to generalize notions of equivariant spectra, fixed points, and  $G$ -Mackey Functors. The main tool, following the work of Emmanuel Dror Farjoun, is the notion of a “ $D$ -orbit,” which exactly generalizes the notion of a  $G$ -orbits. ( $G$ -spaces of the form  $G/H$ ) (Received August 31, 2021)