1163-47-301 **Robert V Huben***, rhuben@huskers.unl.edu. *Gauge Invariant Uniqueness and Amenable Reductions.*

P-graph C*-algebras are a generalization of graph C*-algebras and k-graph C*-algebras where the paths in the graph are given a "length" from P, the set of positive elements of a group G under some weak quasi-lattice ordering. We introduce a certain kind of quotient on an ordered group (G,P) called a reduction, and show that if (G,P) has a reduction into an amenable group, then there is a gauge invariance uniqueness theorem for P-graph algebras. We additionally show that the property "has an amenable reduction" is preserved under direct and free products. (Received September 01, 2020)