

Reachability categories and commuting algebras of quivers

L. Caputi

Abstract.

In this talk, we will introduce the notion of reachability categories. These categories are obtained from path categories of quivers by taking quotients under the “reachability” relation. We will compare reachability categories to path categories, from both a topological and a categorical viewpoint. Then, we will focus on the category algebras of reachability categories, also known as commuting algebras. As application, we will prove that commuting algebras are Morita equivalent to incidence algebras of posetal reflections of reachability categories, a result previously obtained by E. L. Green and S. Schroll. If time allows it, we shall see further connections to magnitude homology, Hochschild cohomology, and persistent homology of graphs. This is joint work with H. Riihimäki.