

Quiver

Akishi Ikeda

Kavli IPMU Postdoctoral Fellow

A quiver consists of vertices and arrows connecting them. For the quiver, we can consider the relation, for example two different paths give the same results. Representation theory of quivers enriches the world of quivers. A representation of a quiver is an attachment of vector spaces to each vertices and linear maps to each arrow. In the theory of representations of quivers, there are deep theorems, like Gabriel's theorem and Kac's theorem, which is the correspondence between dimension vectors of indecomposable representations and roots of a Lie algebra, and Ringel's theorem which is the construction of quantum groups from Ringel-Hall algebras of representations. And by considering the moduli space of representations of quivers, we are led to the theory of Nakajima quiver varieties.

