

Math/Phys Seminar Tue, 9.30-10.30

Webpage with Zoom link: <https://www.math.purdue.edu/~ebkaufma/seminar.html>

Speaker: Ryo Fujita (Kyoto University)

Title: Isomorphisms among quantum Grothendieck rings and their cluster theoretical interpretation

Abstract:

Quantum Grothendieck ring in this talk is a deformation of the Grothendieck ring of the monoidal category of finite-dimensional modules over the quantum loop algebra, endowed with a canonical basis consisting of the so-called simple (q,t) -characters. We discuss a collection of isomorphisms among the quantum Grothendieck rings of different Dynkin types respecting the canonical bases, via which the (q,t) -characters of non-simply-laced type inherit several good properties from those of the unfolded simply-laced type. We also discuss their cluster theoretical interpretation, which particularly yields non-trivial birational relations among the (q,t) -characters of different Dynkin types. This is a joint work with David Hernandez, Se-jin Oh, and Hironori Oya.