
THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Algebraic Geometry and Representation Theory Seminar

Room 1 ,Ziskind Building
on Thursday, Sep 06, 2018at 11:15

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Noncommutative clusters

Abstract:

The goal of my talk (based on joint work with Vladimir Retakh) is to introduce noncommutative clusters and their mutations, which can be viewed as generalizations of both classical and quantum cluster structures.

Each noncommutative cluster S is built on a torsion-free group G and a certain collection of its automorphisms. We assign to S a noncommutative algebra $A(S)$ related to the group algebra of G , which is an analogue of the cluster algebra, and establish a noncommutative version of Laurent Phenomenon in some algebras $A(S)$.

"Cluster groups" G for which the Noncommutative Laurent Phenomenon holds include triangular groups of marked surfaces (closely related to the fundamental groups of their ramified double covers), free group of rank 2, and principal noncommutative tori which exist for any exchange matrix B .