

Geometry, Physics, and Representation Theory
Northeastern University

Sachin Gautam
Ohio State University

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Quantum Groups and Difference Equations

Abstract

Infinite-dimensional quantum groups precede historically their finite-dimensional counterparts, and were discovered during 1970s in the study of exactly solved models of statistical mechanics. By now their structures and representation theories are quite well understood, while a lot of questions still remain open.

In this talk, I will explain how the monodromy of difference equations can be used to answer a few of these questions. The use of difference equations in the theory of affine quantum groups is nothing new. However the family of equations we shall use seems to be. We will exploit this new technique to find explicit connections between various quantum groups, and relating their tensor structures. This talk is based on my joint research with V. Toledano Laredo