



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 1 ,Ziskind Building  
on Tuesday, Aug 20, 2019  
at 11:15

**NOTE CHANGE IN ROOM**

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Classifying certain classes of braid representations

Abstract:

Representations of braid groups have appeared in many different areas such as topology, statistical mechanics, conformal field theory, braided tensor categories and others. In order to compare these, intrinsic characterizations of such representations are desirable. These have been known for some time for representations in connection with vector representations of classical Lie types, in terms of Hecke algebras and so-called BMW algebras. We review these and show how these results can be extended to include more cases related to exceptional Lie types. In particular, we obtain new classes of braid representations where the images of the generators satisfy a cubic equation. Time permitting, we discuss applications of these results such as Schur-Weyl type duality theorems and classification of braided tensor categories.