CHENGZE DUAN

Phone: 202-766-9562   Email: cduan12@umd.edu

Research Interest

Representation theory, Arithmetic geometry, Combinatorics.

Education

University of Maryland-College Park   **Aug 2018 – May 2024**
Ph.D. candidate in Mathematics   *College Park, Maryland*
Advisors: Xuhua He (HKU), Thomas Haines (UMD)

Tsinghua University   **Aug 2014 – Jun 2018**
B.S. in Mathematics   *Beijing*

Publications and preprints

1. *Perfect submonoids of dominant weights*, Journal of Algebra 573 (2021), 509-531.
2. *Good position braid representatives and transversal slices of unipotent orbits*, arXiv:2310.12750.
3. *On certain varieties attached to braid representatives of a Weyl group element*, arXiv:2312.04798.
4. *Partial order on braid elements and on unipotent orbits in reductive groups*, in preparation.

Invited talks

Representation Theory and Number Theory Seminar at National University of Singapore
Nov 12, 2020
Perfect submonoids of dominant weights and characterization of reductive monoids

Algebra Seminar at East China Normal University
Mar 9, 2022
Vinberg monoid and classification of reductive algebraic monoids

Representation Theory and Number Theory Seminar at Chinese University of Hong Kong
Jan 26, 2023
Good position braid representatives for non-elliptic conjugacy classes in the Weyl group

Special session on Representation theory and flag varieties at the AMS Fall Eastern Sectional Meeting
Sept 10, 2023
Braid monoids and transversal slices of unipotent classes

Lie Group Seminar at MIT
Oct 25, 2023
Good position braids and transversal slices

Geometric Representation Theory Seminar at YMSC, Tsinghua University
Dec 1, 2023
Good position braids, transversal slices and affine Springer fibers

Representation Theory Seminar at Chinese Academy of Science
Dec 20, 2023
Good position braids, transversal slices and some applications

Algebra Seminar at SUNY-Buffalo
Mar 11, 2024
Good position braids, transversal slices and affine Springer fibers

Special Session on Geometric Methods in Representation Theory at the AMS Spring Central Sectional Meeting
Apr 20, 2024
Parabolic Lusztig varieties and Deligne-Lusztig varieties attached to some braid elements

Special Session on Groups and Representations at the AMS Spring Western Sectional Meeting
May 5, 2024
braids to affine Springer fibers

Teaching

STAT400: Fall 2018, Spring 2021, Fall 2021, Fall 2022, Spring 2023
STAT100: Spring 2019
MATH240: Fall 2019, Fall 2020, Fall 2023