



ALGEBRA AND GEOMETRY SEMINAR

The Hong Kong University of Science and Technology
Department of Mathematics

Higher traces and characters of finite groups of Lie type

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from University of Toronto

I will give a brief overview of the theory of traces in higher categories and explain how this gives a new approach to the study of representation of finite groups of Lie type. Given an algebraic group G over a finite field $\mathbb{F}_q$, I will explain how representations of $G(\mathbb{F}_q)$ arise as traces of categorical representations of G . Moreover, I will explain the higher categorical origin of Deligne-Lusztig representations and give a new conceptual computation of their characters which explains their regularity as a function of q . This is joint work with Gaitsgory and Varshavsky.

Room 2128B (Lift 19) Wed, Apr 23, 2025 04:00 PM

