

BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

22 November 12:15-13:00

Hybrid seminar
Seminar room 00.003, Spiegelgasse 1 / Zoom

TZU-JAN LI

Sorbonne Université (IMJ-PRG)

Curtis homomorphisms in invariant theory

ABSTRACT

Recent studies in local Langlands correspondence in families suggest that the endomorphism algebra of Gelfand-Graev representations over integral coefficients should be isomorphic, under suitable hypotheses, to the ring of functions of an affine scheme from invariant theory; for general linear groups, such an isomorphism has been proved in D. Helm's paper [1] by p-adic techniques. As the above-mentioned isomorphism is indeed a problem of finite groups, an approach to this problem via finite-group techniques is expected. In this talk, based on a recent work [2] in my PhD project, we shall see a possibility of such a finite-group approach through the so-called "Curtis homomorphisms," which are basically restriction maps on the side of Deligne-Lusztig dual groups.

[1] D. HELM, Curtis homomorphisms and the integral Bernstein center for GL_n , Alg. & Num. Th. 14-10 (2020)

[2] T.-J. LI, On endomorphism algebras of Gelfand-Graev representations, preprint (<https://arxiv.org/abs/2106.09507>)