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Representation and Number Theory Seminar

Affine Harish-Chandra Bimodules and Steinberg-Whittaker Localization

by

Dr. Justin Campbell

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Abstract:

This talk will be about my paper of the same title with Gurbir Dhillon. It is well-known that the center of the enveloping algebra of an affine Kac-Moody algebra at noncritical level is trivial. Nonetheless, its representation theory shares many features with that of a finite-dimensional semisimple Lie algebra, including a block decomposition of category *O*. We propose an analogue, for any affine Weyl group orbit, of the category of Kac-Moody representations with the corresponding "generalized central character." Namely, we consider the subcategory generated by the relevant Verma modules under the categorical loop group action. We also construct equivalences relating various categories of affine Harish-Chandra bimodules, Whittaker modules, and Whittaker *D*-modules on the loop group, generalizing known equivalences in the finite-dimensional case proved by Bernstein-Gelfand, Beilinson-Bernstein, Milicic-Soergel, and others.

Date : October 5, 2021 (Tuesday)
Time : 9:00am – 10:00am (Hong Kong SAR)
Zoom link :
https://cuhk.zoom.us/j/97838822137?pwd=ZTVvSC9abmNjR3RCcS9FTzJNTVhXdz09
Meeting ID: 978 3882 2137
Passcode : sesame

All are Welcome