

## Arkhipov-Bezrukavnikov for p-adic groups

*jeudi 26 octobre 2023 16:00 (1h 20m)*

We are going to explain joint work with Johannes Anschütz, Zhiyou Wu, and Jize Yu concerning the Arkhipov-Bezrukavnikov equivalence in mixed characteristic. Kazhdan-Lusztig constructed an isomorphism between the Grothendieck group of equivariant coherent sheaves on the dual Springer variety, and that of equivariant perverse sheaves on the Iwahori flag variety in the function field case. Arkhipov-Bezrukavnikov later lifted this to an isomorphism of the corresponding bounded derived categories, building on Gaitsgory's construction of central sheaves via nearby cycles. Recently, it became possible to carry out the same program for p-adic groups, due to the construction of Witt flag varieties due to Zhu and Bhatt-Scholze, and of the  $B_{\text{dR}}^+$ -affine Grassmannian due to Scholze-Weinstein. Relying on previous work with Anschütz, Gleason, and Richarz on p-adic local models, we are able to define a p-adic avatar of Gaitsgory's central functor and also of the Arkhipov-Bezrukavnikov functor. Some of our proofs are new out of necessity due to the constraints of our setup and we will try to highlight the differences. We will also discuss some perfectoid geometry along the way.

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