On the depth r Bernstein projector.

Abstract:

This is a joint work with Bezrukavnikov and Kazhdan. The goal of my talk is to give an explicit formula for the Bernstein projector to representations of depth $\lambda \leq r$. As a consequence, we show that the depth zero Bernstein projector is supported on topologically unipotent elements and it is equal to the restriction of the character of the Steinberg representation. As another application, we deduce that the depth $r$ Bernstein projector is stable. Moreover, for integral depths our proof is purely local.