

Stable cohomology of line bundles on flag varieties

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A fundamental problem at the confluence of algebraic geometry and representation theory is to understand the structure and vanishing behavior of the cohomology of line bundles on flag varieties. Over fields of characteristic zero, this is the content of the Borel-Weil-Bott theorem and is well-understood, but in positive characteristic it remains wide open, despite important progress over the years. By embedding smaller flag varieties as Schubert subvarieties in larger ones, one can compare cohomology groups on different spaces and study their eventual asymptotic behavior. I will describe a sharp stabilization result, as well as explicit stable cohomology calculations in a number of cases of interest. Joint work with Keller VandeBogert.