
MATT CARTIER, University of Pittsburgh

Computing the Invariant β for Certain Schubert Subvarieties

This talk concerns an invariant $\beta_Y(L)$ attached to a triple (X, Y, L) , where X is an irreducible projective variety, $Y \subset X$ is a proper subscheme, and L is a big or ample line bundle on X . This invariant has arisen independently in several works, where it has been used to obtain new results in Diophantine geometry and mathematical physics. We will focus on the case where $X = \mathbb{G}(k, n)$, $L = \mathcal{O}_X(1)$, and $Y \subset X$ a Schubert subvariety. We develop a method which, under suitable hypotheses, allows us to compute $\beta_Y(L)$ for any such Schubert subvariety Y . As a final result, using a different argument, we obtain a concise explicit formula for $\beta_Y(L)$ when Y is a special type of Schubert subvariety that we call a maximal rectangle Schubert subvariety (MR Schubert subvariety).