Stability of Schubert varieties and Bott-Samelson resolutions

Tomoo Matsumura

Algebraic and combinatorial formulas for Schubert classes often come from particular resolutions of the Schubert varieties. Moreover, they give the corresponding formulas of Schubert polynomials because these resolutions are "stable" with respect to the natural inclusions of flag varieties in different dimensions. The known examples include Hall-Littlewood (HL) resolutions and Damon-Kempf-Laksov (DKL) resolutions. The goal of this talk is twofold: One, I will explain how to define a stable sequence of Bott-Samelson resolutions along with its application to Schubert calculus in algebraic cobordism. Two, I will introduce a generalized notion of Bott-Samelson resolutions that can realize the above HL and DKL resolutions. This talk is based on the joint work with T.Hudson and N.Perrin and with S.Kuroki.