Hasse diagrams and other representation-theoretic preliminaries for BGG

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Date / Time / Location:  Wed. January 25, 2012, 10:00 - 11:30, JD35.

Abstract:

This is the first in a series of talks devoted to Bernstein-Bernstein-Gelfand (BGG) sequences. In this talk, I’ll go over various representation-theoretic preliminaries: roots and weights, Dynkin diagrams, parabolic subalgebras, the Weyl group, and leading up to the recipe for generating the Hasse diagram associated to any generalized flag variety $G/P$. The Hasse diagram of $G/P$ is a basic ingredient in the construction of BGG sequences, but also gives a simple way of identifying the integral homology of $G/P$. 