Representation Theory Seminar

Pieri rule and highest weight modules of the general linear algebras

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Date: May 22, 2024 (Wednesday)
Time: 3:00 - 4:00pm
Venue: Room 210, Run Run Shaw Building, HKU

Abstract

The Pieri rule for $GL_n = GL_n(\mathbb{C})$ is one of the best known results on tensor product of representations. It describes the irreducible decomposition of $V \otimes S^k(\mathbb{C}^n)$ where $V$ is an irreducible polynomial representation of $GL_n$ and $S^k(\mathbb{C}^n)$ is a symmetric power of the standard representation on $\mathbb{C}^n$. In this talk, we will explain how to use the Pieri rule to obtain weight multiplicities and bases of some highest weight modules of the general linear algebra.