

Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

- DATE July 15 (Thu), 2010, 14:30–16:00
- PLACE Room 122, Graduate School of Mathematical Sciences
- SPEAKER **Soo Teck Lee** (Singapore National University)
- TITLE Pieri rule and Pieri algebras for the orthogonal groups
- ABSTRACT The irreducible rational representations of the complex orthogonal group O_n are labeled by a certain set of Young diagrams, and we denote the representation corresponding to the Young diagram D by σ_n^D . Consider the tensor product $\sigma_n^D \otimes \sigma_n^E$ of two such representations. It can be decomposed as

$$\sigma_n^D \otimes \sigma_n^E = \bigoplus_F m_F \sigma_n^F,$$

where for each Young diagram F in the sum, m_F is the multiplicity of σ_n^F in $\sigma_n^D \otimes \sigma_n^E$. In the case when the Young diagram E consists of only one row, a description of the multiplicities in $\sigma_n^D \otimes \sigma_n^E$ is called the *Pieri Rule*. In this talk, I shall describe a family of algebras whose structure encodes a generalization of the Pieri Rule.