

Branching Rule and Gelfand-Tsetlin Basis for $\mathfrak{gl}_{m|n}$

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Abstract. The branching rule is a very special case of the restriction in representation theory. For example, the branching rule for the symmetric groups is well-known and it is closely related to the branching rule of the general linear groups/algebras by Schur duality.

Let \mathfrak{gl}_m be the general linear Lie algebra and $\mathfrak{gl}_{m|n}$ be the general linear Lie superalgebra over complex numbers. In this talk, we will generalize the result of the classical branching rule of \mathfrak{gl}_m to $\mathfrak{gl}_{m|n}$. One crucial difference between Lie algebra and Lie superalgebra is that NOT all Borel subalgebras are conjugate by the associated Weyl groups in Lie superalgebras. Our result enable us to describe the branching rule for any fixed Borel subalgebra. This is a joint work with Sean Clark(University of Virginia) and S. Kuang Thamrongpaioj(University of Virginia).
