

GL_n tensor product algebras and the Littlewood-Richardson rule

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The algebra of polynomial functions on the space of $n \times (k + \ell)$ complex matrices carries an action by $GL_n \times GL_k \times GL_\ell$. Its subalgebra of highest weight vectors can be used to study tensor products of GL_n representations, so it is called a GL_n tensor product algebra. In this talk, we will use this algebra and its variants to construct a proof of the the Littlewood-Richardson rule. This is joint work with Roger Howe.