Highest-Weight Vectors in the Tensor Products of Representations of $U_q(sl_2)$

Presented by

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Abstract: Highest-weight representations are of special interest in the representation theory of quantum groups. In this talk, we investigate $U_q(sl_2)$, the quantized universal enveloping algebra of the simple Lie algebra sl_2. We focus on category $O(U_q(sl_2))$. The indecomposable modules of $O(U_q(sl_2))$ include Verma modules, finite-dimensional modules, T modules, and restricted duals of Verma modules. The main result of this talk is an explicit computation of highest-weight vectors in the tensor products of Verma modules in category $O(U_q(sl_2))$.

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