

THE LG POLYNOMIAL AND THE ALEXANDER-CONWAY POLYNOMIAL

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The LG (Links-Gould) polynomial is derived from the one-parameter family of four dimensional representations of the quantum superalgebra $U_q[gl(2|1)]$. It is a two-variable polynomial invariant of oriented links. Since the skein relations of the LG polynomial were discovered, we have been making a lot of progress in the study of the LG polynomial. In this talk, we focus on the relation between the LG polynomial LG and the Alexander-Conway polynomial Δ . The LG polynomial may be regarded as “the Alexander-Conway polynomial, expanded with respect to chirality”; in fact Δ is recoverable from it. Further, LG is a Laurent polynomial in a particular pair of symmetrical variables and their symmetry is related to a symmetry of Δ ; indeed LG also inherits some other properties from Δ .

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