

Bled'11 - 7th Slovenian International Conference on Graph Theory

Contribution ID : 128

Dual polar graphs and the quantum algebra $U_q(\mathfrak{sl}_2)$

Content :

Let $\Gamma = (X, R)$ denote a dual polar graph.

Let A denote the adjacency matrix of Γ .

Fix a vertex $x \in X$. Let $A^* = A^*(x)$ denote the dual adjacency matrix of Γ with respect to x .

Let $T = T(x)$ denote the subalgebra of $\text{Mat}_X(\mathbb{C})$ generated by A, A^* .

Let $V = \mathbb{C}^X$;

view V as a left T -module.

In this talk we discuss certain nice maps in T and show how they naturally give a $U_q(\mathfrak{sl}_2)$ -module structure on V .

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Session classification : --not yet classified--

Track classification : Representations of Graphs

Type : Oral presentation