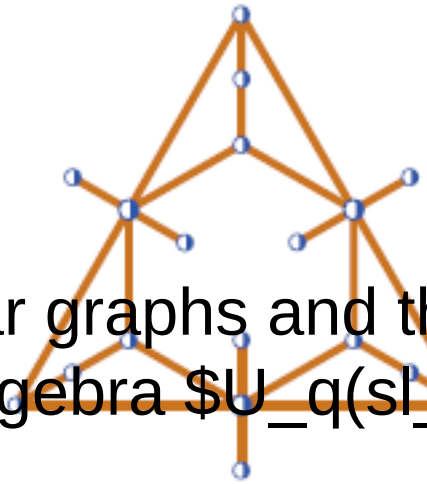
Bled'11 - 7th Slovenian International Conference on Graph Theory



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Dual polar graphs and the quantum algebra $U_q(sl_2)$

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 $\mbox{Mat}_X(\C)$ generated by A,A^*.
Let $V = \C^X$;
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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