Mathematics > Operator Algebras

Representations of quantum permutation algebras

Teodor Banica, Julien Bichon, Jean-Marc Schlenker

(Submitted on 15 Jan 2009)

We develop a combinatorial approach to the quantum permutation algebras, as Hopf images of representations of type $\pi:A_s(n)\to B(H)$. We discuss several general problems, including the commutativity and cocommutativity ones, the existence of tensor product or free wreath product decompositions, and the Tannakian aspects of the construction. The main motivation comes from the quantum invariants of the complex Hadamard matrices: we show here that, under suitable regularity assumptions, the computations can be performed up to $n=6$.

Comments:	48 pages
Subjects:	**Operator Algebras (math.OA)**; Quantum Physics (quant-ph)
Journal reference:	J. Funct. Anal. 257 (2009), 2864-2910
Cite as:	**arXiv:0901.2331v1 [math.OA]**

Submission history

From: Teodor Banica [view email]
[v1] Thu, 15 Jan 2009 19:00:58 GMT (32kb)

Which authors of this paper are endorsers?