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Mathematics > Operator Algebras

# Completely positive multipliers of quantum groups

### **Matthew Daws**

(Submitted on 26 Jul 2011 (v1), last revised 17 Sep 2012 (this version, v4))

We show that any completely positive multiplier of the convolution algebra of the dual of an operator algebraic quantum group  $\G\$  (either a locally compact quantum group, or a quantum group coming from a modular or manageable multiplicative unitary) is induced in a canonical fashion by a unitary corepresentation of  $\G\$ . It follows that there is an order bijection between the completely positive multipliers of  $L^1(G)\$  and the positive functionals on the universal quantum group  $C_0^u(G)\$ . We provide a direct link between the Junge, Neufang, Ruan representation result and the representing element of a multiplier, and use this to show that their representation map is always weak $^*$ -meak $^*$ -continuous.

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