Mathematics > Operator Algebras

# Completely positive multipliers of quantum groups

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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$^*$-weak$^*$-continuous.

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