THE CONTINUOUS FIELD OF QUANTUM $GL(N, \mathbb{C})$

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Abstract. Given a unital $*$-algebra $\mathscr{A}$ together with a good positive filtration on its set of irreducible (bounded) representations, one can construct a C*-algebra A_0 with a dense two-sided ideal A_c such that $\mathscr{A}$ maps into the multiplier algebra of A_c. When the filtration is induced from a central element in $\mathscr{A}$, we say that $\mathscr{A}$ is an *s^*-algebra*. We also introduce the relative notion of $\mathscr{R}$-algebra over a commutative s*-algebra $\mathscr{R}$, and of Hopf $\mathscr{R}$-algebra. We formulate conditions such that the completion of a Hopf $\mathscr{R}$-algebra gives rise to a continuous field of Hopf C*-algebras over the spectrum of R_0. We apply the general theory to the case of quantum $GL(N, \mathbb{C})$ as constructed from the FRT-formalism. This is joint work with M. Floré.

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