

## Tracial and G-invariant States on Quantum Groups

*jeudi 1 décembre 2022 14:00 (45 minutes)*

For a discrete group  $G$ , the tracial states on its reduced group  $C^*$ -algebra  $C_r^*(G)$  are exactly the conjugation invariant states. This makes the traces on  $C_r^*(G)$  amenable to group dynamical techniques. In the setting of a discrete quantum group  $\mathbb{G}$ , there is a quantum analog of the conjugation action of  $G$  on  $C_r^*(G)$ . Recent work of Kalantar, Kasprzak, Skalski, and Vergnioux shows that  $\mathbb{G}$ -invariant states on the quantum group reduced  $C^*$ -algebra  $C_r(\widehat{\mathbb{G}})$  are in one-to-one correspondence with certain KMS-states, exhibiting a disparity between tracial states and  $\mathbb{G}$ -invariant states unless  $\mathbb{G}$  is unimodular. We will show there is still enough of a connection between traceability and  $G$ -invariance to say interesting things about the tracial states of  $C_r(\widehat{\mathbb{G}})$ .

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