QUANTUM $SL(2, \mathbb{R})$ AND ITS IRREDUCIBLE REPRESENTATIONS

JOEL RIGHT DZOKOU TALLA

Abstract: Let I and J be two orthogonal respectively left and right coideal $*$-subalgebras of a dual pair of Hopf $*$-algebras. We define the Drinfeld double coideal of J and I. Next, we define for $0 < q < 1$ the unital $*$-algebra $U_q(\mathfrak{sl}(2, \mathbb{R}))$, quantizing the universal enveloping $*$-algebra of $\mathfrak{sl}(2, \mathbb{R})$, as the Drinfeld double of the equatorial Podleś sphere coideal $*$-subalgebra of $O_q(SU(2))$ and its associated orthogonal coideal $*$-subalgebra of $U_q(\mathfrak{su}(2))$. We finally classify its admissible irreducible $*$-representations.