Analysis on quantum tori

Quanhua Xu

Université de Franche-Comté and Harbin Institute of Technology

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Abstract

Quantum tori are fundamental examples in operator algebras and non-commutative geometry. Their algebraic and geometric aspects have been well understood. However, the study on their analytic aspect has been started only recently. This talk will give a brief survey of the recent development on analysis on quantum tori. We will present two families of results: the first one on the convergence of Fourier series, and the second on the embedding and characterizations of Sobolev and Besov spaces.