

Quantum teardrops

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Algebras of functions on quantum weighted projective spaces are introduced, and the structure of quantum weighted projective lines or quantum teardrops are described in detail. In particular the presentation of the coordinate algebra of the quantum teardrop in terms of generators and relations and classification of irreducible $*$ -representations are derived. The algebras are then analysed from the point of view of Hopf-Galois theory or the theory of quantum principal bundles. Fredholm modules and associated traces are constructed. C^* -algebras of continuous functions on quantum weighted projective lines are described and their K -groups computed.

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