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On Noncommutative Fibre Bundles

Abstract

The classical concept of principal fibre bundle admits a well-understood by now generalization to the noncommutative setting, in which topological spaces (or manifolds) are traded for (possibly noncommutative) algebras or C^* -algebras. However, the concept of locally trivial fibre bundle has not been extended to the noncommutative world so far. In this talk, we will present a recent approach to this problem and motivate it by examples of the noncommutative full flag manifold of $SU_q(3)$ and the quantum twistor bundle. Based on joint work with Tomasz Brzeziński and Sophie E. Mikkelsen.