$C(X)$-ALGEBRAS AS NONCOMMUTATIVE BRANCHED COVERINGS

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Let X be a compact Hausdorff space and let $C(X)$ be the C^*-algebra of continuous complex-valued functions on X. A $C(X)$-*algebra* is a C^*-algebra A endowed with a unital injective $*$-homomorphism from $C(X)$ to the centre of the multiplier algebra of A. The concept of $C(X)$-algebras was introduced by G. Kasparov and may be considered as generalized bundles (or fields) of C^*-algebras, parametrized by the space X.

In 2011, A. Pavlov and E. Troitsky introduced the concept of *noncommutative branched covering*, as a pair (A, B) consisting of a C^*-algebra A and its C^*-subalgebra B with common identity element, such that there exists a conditional expectation of finite index from A onto B.

In this talk we shall present some results concerning the following problem: For which unital $C(X)$-algebras A is a pair $(A, C(X))$ a noncommutative branched covering?

This is a joint work with Etienne Blanchard (Institut de Mathématiques de Jussieu, Paris).