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Section:

7. Lie Groups and Lie Algebras

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On the Structure of Lie Group C*-algebras and Compact Quantum Groups

We expose a K-theoretic approach to study group C*-algebras and C*-algebaric compact quantum groups: 1. The conception of multidimensional geometric quantization and the index of group C*-algebras; 2. the entire homology of noncommutative de Rham currents and the noncommutative Chern characters, and their compution for C*-algebras of compact Lie groups and C*-algebraic compact quantum groups.

References: 1. D. N. Diep, A survey of noncommutative geometry methods for group algebras, *J. of Lie Theory*, 3(1993),149-176. 2. —, *Noncommutative geometry methods for group C*-algebra*, 282pp, to appear in Pitman Mathematics Series of Research Notes. 3. D. N. Diep, A. O. Kuku and N. Q. Tho, *Noncommutative Chern characters for compact Lie groups C*-algebras*, http://www.math.uiuc.edu/K-theory/0257. 4. —, *Noncommutative Chern characters for compact quantum groups*, preprint 1998.