

An analogue of the Kazhdan's property (T) for operator algebras Alexander Pavlov (joint with Evgenij Troitsky)

In the talk the property (T) at least at one point of the spectrum of a C^* -algebra will be discussed. It is an analogue of the Kazhdan's property (T). This property was defined for W^* -algebras by A. Connes and V. Jones [2] and for C^* -algebras by B. Bekka [1]. But our approach is different from their one. Namely we consider this problem from the topological point of view and it allows to solve the following rather subtle problem in the theory of C^* -Hilbert modules.

We prove that a separable unital C^* -algebra A has property MI (module-infinite, i. e. any C^* -Hilbert module over A is self-dual if and only if it is finitely generated projective) if and only if it does not have the property (T) at least at one point of the spectrum. The talk is based on the results of [3, 4].

References

- [1] B. Bekka, *A property (T) for C^* -algebras*, arXiv:math.OA/0505189, 2005.
- [2] A. Connes and V. Jones, *Property T for von Neumann algebras*, Bull. London Math. Soc., 17, 1985, N 1, 57–62.
- [3] A.A. Pavlov, E.V. Troitsky *A C^* -analogue of Kazhdan's property (T)*, Max-Planck-Institut für Mathematik, Preprint Series 2006 (82).
- [4] A.A. Pavlov, E.V. Troitsky *A C^* -analogue of Kazhdan's property (T)*, arXiv: math.OA/0606724, 2006.