

AN INTRODUCTION TO OPERATOR ALGEBRAS AND A NONCOMMUTATIVE ERGODIC THEOREM

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The talk will give a brief introduction to the theory of operator algebras, namely C^* - and W^* -algebras, assuming only some basic knowledge about Banach and Hilbert spaces and bounded linear operators. No proofs will be given, instead I will focus on a motivation and the most important results. We will also discuss in which sense C^* - and W^* -algebras can be regarded as non-commutative topology and non-commutative measure theory, respectively. In the end there will be a short introduction to Ergodic Theory and a generalization of Birkhoff's individual ergodic theorem to W^* -algebras.