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*Operator algebras from toposes.*

Abstract: Grothendieck Toposes and  $C^*$ -algebras are two distinct generalizations of the concept of topological space and there is a lot of examples of objects to which one can attach both a topos and a  $C^*$ -algebra in order to study their properties: dynamical systems, foliations, Graphs, Automaton, topological groupoids etc. It is hence a natural question to try to understand the relation between these two sort different object. In this talk I will explain how to attach  $C^*$ -algebras and Von Neuman algebras to (reasonable) toposes, in a way that recover the  $C^*$ -algebra attached to all the above examples. This will open the possibility to transport a lot of techniques and concept from non-commutative geometry to topos theory, and to systematize a lot of way to construct  $C^*$ -algebras from geometric data.