The product of noncommutative spaces

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Abstract

Noncommutative algebraic geometry aims to extend the dictionary between commutative algebra and geometry provided by classical algebraic geometry to the noncommutative realm.

In this talk, we first review Grothendieck abelian categories briefly and show how they can be interpreted as (possibly) noncommutative spaces. We will then go over the definition of Grothendieck topos and show how Grothendieck categories conform the additive cousins of Grothendieck topoi. To conclude, we will then illustrate how this viewpoint can help us generalize commutative constructions to the noncommutative setting by means of the example of the product of spaces. This last part is based on joint work with Wendy Lowen and Boris Shoikhet.