

## Tannakian techniques in topos representation theory.

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In [2] it is proved: every pointed atomic connected topos is the representation topos of the localic group of automorphisms of the point. In Tannakian category theory (see [1], [4]) there is an analogous theorem for the additive case of vector spaces. There have been generalizations of this result (see for example [6]) to tensor categories whose unit is a finitely presented object, very similar to the additive case. The general case of an arbitrary tensor category (see [6], [7]) is still an open problem.

In [3] we have constructed a Tannakian context to localic Galois theory, and we have proved the equivalence between their fundamental theorems. From this work it follows a new case of Tannakian category where the fundamental theorem holds, essentially different to the known cases, since in our case the unit of the tensor product is not finitely presented.

The extension of Galois theory performed in [5] generalizes localic Galois theory to the case of an arbitrary topos which is not assumed to be pointed. We're actually researching the applicability of Tannakian techniques to this context, and the extension of our results of [3] to arbitrary topos.

## References

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