

An elementary proof that algebras over an operad are semi-abelian

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Abstract.

The operad theory provides a fundamental framework for the study of algebraic structures and their categorical properties together. In that sense, it is useful to understand and systematise the link between the properties of an operad and the properties of the category of algebras over it. This poster is a particular example of that link. We expose an accessible and explicit proof of the fact that the category of algebras over a reduced (meaning we have no constant operations) operad is a semi-abelian category. It is a particularly useful example, since it allows us to “translate” all the machinery and properties that already have been studied for semi-abelian categories to the operad world. Overall, it represents a really good starting point for future work in the relations between an operad and the category of algebras associated to it.