

Semi-Abelian Categories

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Abstract

The notion of a semi-abelian category was first introduced in [1]. It is "designed capture typical algebraic properties valid for groups, rings and algebras, say, just as abelian categories allow for a generalized treatment of abelian-group and module theory". In this talk, I present some of the defining notions of Semi Abelian categories. Among others, we shall see that the category of groups is a semi-abelian category, and that the category of lattices is not. The main theorem will be to show that a category $\mathcal{C}$ is abelian if and only if $\mathcal{C}$ and $\mathcal{C}^{op}$ are abelian semi-abelian.

References

- [1] G. Janelidze, W. Tholen, L. Marki. Semi-Abelian Categories, Journal of Pure and Applied Algebra, 2000
- [2] F. Borceux and D. Bourne, Mal'cev, Protomodular, Homological and Semi-Abelian Categories, Springer 2004.
- [3] D. Bourn and Z. Janelidze, Subtractive categories and extended subtractions, Applied Categorical Structures 17, 2009, 317-343.