

May 20th, 2025 (Tuesday)

Place: Microsoft Teams

3:00 PM (Coimbra time)

Speaker: Tim Van der Linden

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Self-dual aspects of semi-abelian categories

Abstract

The aim of this talk is to introduce di-exact categories [3], which are defined by a simple axiom system capturing self-dual aspects of the context of Janelidze–Marki–Tholen semi-abelian categories [2, 1]. A Borceux–Bourn homological category [1] is Barr-exact if and only if it is di-exact. We explain that classical diagram lemmas such as the Snake Lemma hold in di-exact categories, and give an overview of examples and related contexts.

References

- [1] F. Borceux and D. Bourn, *Mal'cev, protomodular, homological and semi-abelian categories*, Math. Appl., vol. 566, Kluwer Acad. Publ., 2004.
- [2] G. Janelidze, L. Marki and W. Tholen, *Semi-abelian categories*, Journal of Pure and Applied Algebra 168 (2002), no. 2, 367–386.
- [3] G. Peschke and T. Van der Linden, *A Homological View of Categorical Algebra*, arXiv:2404.15896.