

ON EXTENSIONS AND COHOMOLOGY: BAER SUMS AND SCHREIER-MAC LANE THEOREM

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The first part of the talk will be focused on the Schreier-Mac Lane theorem in semi-abelian action accessible categories [2, 3]: this theorem allows a description of the extensions with non-necessarily abelian kernel in terms of cohomology. Then we will consider the non-semi-abelian contexts of monoids and semirings: by results in [1], we will show that in these contexts it is still possible to have Baer sums of “good” extensions with abelian kernel, namely of special Schreier extensions.

REFERENCES

- [1] D. Bourn, N. Martins-Ferreira, A. Montoli, M. Sobral, *Schreier split epimorphisms in monoids and in semirings*, Textos de Matemática (Série B), Departamento de Matemática da Universidade de Coimbra, vol. 45 (2013).
- [2] D. Bourn, A. Montoli, *Intrinsic Schreier-Mac Lane extension theorem II: The case of action accessible categories*, J. Pure Appl. Algebra 216 (2012), 1757-1767.
- [3] A.S. Cigoli, G. Metere, A. Montoli, *Obstruction theory in action accessible categories*, J. Algebra 385 (2013), 27-46.

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