

Fundamental sequences associated with additive functors and their applications

Alex Martsinkovsky

Northeastern University, Boston, MA, USA

For each additive functor (co- or contravariant), we construct two long sequences built out of its derived functors, satellites, and stabilizations. These sequences are complexes which are exact at the satellites and stabilizations. If the original functor is half-exact, then the long sequences are exact. The above constructions apply to arbitrary additive functors on arbitrary (finite or infinite) module categories or, more generally, to abelian categories with enough injectives or projectives (depending on the context). Applications range from well-known formulas of Auslander to universal coefficients.

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