

Seminari de Geometria Algebraica 2016-2017

Divendres 12 de maig a les 15:00, aula T2 FMI-UB

<http://www.ub.edu/sga/>

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## RELATIVE HOMOLOGICAL ALGEBRA VIA TRUNCATIONS

WOLFGANG PITSCH

Universitat Autònoma de Barcelona

We will explain how to generalize Spaltenstein's classical approach to construct the unbounded derived category  $D(\mathcal{R})$  so as to allow very general classes of objects to play the role of injectives. This is formalized in a Quillen pair of functors between the category of unbounded chain complexes and the category of towers of left bounded complexes. Given any injective class the latter has always a model structure allowing to invert those morphisms of towers that the given class sees as quasi-isomorphisms. Under a generalization of Roos axiom  $AB4^{*-n}$  adapted to the new class of injectives this setting is good enough to form the derived category with respect of the new class of injectives. If time permits we will discuss various settings to which this framework applies.

This is joint work with W. CHACHOLSKI, J. SCHERER and A. NEEMAN.

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