

1117-13-438

Petter A. Bergh, David A. Jorgensen and W. Frank Moore* (moorewf@wfu.edu), PO Box 7388, 127 Manchester Hall, Winston-Salem, NC 27109. *Totally Acyclic Approximations*. Preliminary report.

Let R be a commutative local ring. We study the subcategory of the homotopy category of R -complexes consisting of the totally acyclic R -complexes. In particular, in the context where $Q \rightarrow R$ is a local ring homomorphism such that R has finite flat dimension over Q , we define explicitly an adjoint pair of functors between the homotopy category of totally acyclic R -complexes and that of Q -complexes which are analogous to the classical adjoint pair between the module categories of R and Q . As a consequence, one obtains a precise and useful notion of approximations of totally acyclic R -complexes by totally acyclic Q -complexes. (Received January 18, 2016)