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Eric G Ramos* (eramos@math.wisc.edu). *The Local Cohomology of FI-modules.*

Much of the work in homological invariants of FI-modules has been concerned with properties of certain right exact functors. One reason for this is that the category of finitely generated FI-modules over a Noetherian ring very rarely has sufficiently many injectives. In this talk we consider the (left exact) torsion functor on the category of finitely generated FI-modules, and show that its derived functors exist. Properties of these derived functors, which we call the local cohomology functors, can be used to reprove well known theorems relating to the stable range of a module. This is joint work with Liping Li (Received January 06, 2017)