1085-13-104 **Petter Andreas Bergh**, **David A. Jorgensen*** (djorgens@uta.edu) and **Steffen Oppermann**. *Triangulated defect categories.* Preliminary report.

We define for any additive category P a fully faithful triangle functor from the homotopy category of “totally acyclic” complexes in P to an analogue of the stable derived category, namely the Verdier quotient of the homotopy category of the right bounded “eventually acyclic” complexes in P modulo the homotopy category of bounded complexes in P. Given a triangulated subcategory C of the homotopy category of totally acyclic complexes in P, we consider the thick closure of the image of C, and call the corresponding Verdier quotient the defect category of C. One application is where P is the category of finitely generated projective modules over a commutative local ring, or a finite dimensional algebra. In this case the defect category of the full homotopy category of totally acyclic complexes in P we call the Gorenstein defect category; it’s triviality is a triangulated categorical reformulation of the Auslander-Bridger characterization of Gorenstein rings as those rings over which all finitely generated modules have finite Gorenstein dimension. The dimension (in the sense of Rouquier) of the defect category thus gives a measure of how close the ring is to being Gorenstein. (Received September 03, 2012)