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Pye Phyo Aung* (paung@pacific.edu). *Gorenstein Dimensions of Module-finite Extensions*. Preliminary report.

Enochs and Jenda's Gorenstein dimensions are generalized by Holm and Jørgensen to C -Gorenstein dimensions, where C is a semidualizing R -module, in their study of connections between C -Gorenstein dimensions of an R -complex and Gorenstein dimensions of the same complex viewed as a complex over the trivial extension $R \times C$. We generalize these connections to a certain type of retract diagram, recovering $R \times C$ as a special case. Furthermore, we simplify the retract diagram into a module finite extension, assuming the existence of a dualizing R -complex. We investigate along the way the “local-global property” of some C -Gorenstein dimensions and a characterization of semidualizing modules in our generalized setting. (Received September 22, 2015)