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Sean Sather-Wagstaff and **Jonathan Totushek*** (jonathan.totushek@ndsu.edu). *Finiteness of Homological Dimensions with Respect to a Semidualizing Complex*. Preliminary report.

A result of Foxby states: If there exists a complex with finite depth, finite flat dimension, and finite injective dimension over a local ring R , then R is Gorenstein. In this talk we will investigate some homological dimensions involving a semidualizing complex and improve upon Foxby's result by answering a question of Takahashi and White. In particular we prove for a semidualizing complex C , if there exists a complex with finite depth, finite \mathcal{F}_C -projective dimension, and finite \mathcal{I}_C -injective dimension over a local ring R , then R is Gorenstein. (Received September 04, 2014)