

1102-13-223

**Sean Sather-Wagstaff** and **Jonathan Totushek\*** ([jonathan.totushek@ndsu.edu](mailto: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 July 29, 2014)