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**Sean Sather-Wagstaff** and **Jonathan Totushek\*** (jtotushe@uwsuper.edu). *Using semidualizing complexes to detect Gorenstein rings.*

A result of Foxby states that 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 investigate some homological dimensions involving a semidualizing complex and improve on 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 January 27, 2016)