1113-13-139 **Aaron Feickert**, NDSU, and **Sean Sather-Wagstaff***, Clemson University. *Gorenstein injective filtrations over Cohen-Macaulay rings with dualizing modules.* Preliminary report.

Over a noetherian ring, it is a classic result of Matlis that injective modules admit direct sum decompositions into injective hulls of quotients by prime ideals. We show that over a Cohen-Macaulay ring admitting a dualizing module, Gorenstein injective modules admit similar filtrations. We also investigate Tor-modules of Gorenstein injective modules over such rings. This extends work of Enochs and Huang over Gorenstein rings.

Furthermore, we give examples showing the following: (1) the class of Gorenstein injective R-modules need not be closed under tensor products, even when R is local and artinian; (2) the class of Gorenstein injective R-modules need not be closed under torsion products, even when R is a local, complete hypersurface; and (3) the filtrations given in our main theorem do not yield direct sum decompositions, even when R is a local, complete hypersurface. (Received August 18, 2015)