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Sean Sather-Wagstaff, North Dakota State University. *Dualizing modules and Gorenstein presentations*. Preliminary report.

It is a classical piece of commutative algebra that a Cohen-Macaulay local ring admits a dualizing module if and only if it is a homomorphic image of a Gorenstein ring. We augment this result by showing that such a ring admits a nontrivial semidualizing module if and only if it admits a presentation Q/I with Q Gorenstein and such that the ideal I has a nontrivial decomposition $I = I_1 + I_2$ with Tor-independent totally reflexive quotients Q/I_j . (Received September 07, 2009)