

1059-13-216

**Livia Hummel** (hummell@indy.edu), Department of Mathematics, University of Indianapolis, Indianapolis, IN 46227, and **Tom Marley\*** (tmarley1@math.unl.edu), Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588. *Coherent Gorenstein Rings.*

We present a generalization of the concept of Gorenstein dimension for a certain class of finitely generated modules over a commutative (but not necessarily Noetherian) ring. We are able to reprove, using this generalized concept, the Auslander-Bridger formula for modules of finite Gorenstein dimension. This also allows us to define a notion of Gorenstein for coherent rings which extends the usual notion from the Noetherian case. We then are able to show that Coherent regular rings are Gorenstein and coherent Gorenstein rings are Cohen-Macaulay (as defined by Hamilton and the presenter). (Received February 23, 2010)