1012-13-71 **Wolfgang Hassler** and **Roger Wiegand*** (rwiegand@math.unl.edu), Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130. *Big indecomposable mixed modules.*

Let $(R, \mathfrak{m})$ be a ring of the form $k[[x_0, \ldots, x_d]]/(f)$, where k is an algebraically closed field of characteristic different from 2 and f is a non-zero element of the maximal ideal $\mathfrak{m}$. Even when R has finite Cohen-Macaulay type (i.e., there are only finitely many indecomposable maximal Cohen-Macaulay modules up to isomorphism), one can usually find indecomposable finitely generated modules M such that $M/\mathrm{H}^0_{\mathfrak{m}}(M)$ is maximal Cohen-Macaulay of arbitrarily large rank. (Here $\mathrm{H}^0_{\mathfrak{m}}(M)$ is the largest finite-length submodule of M.) Indeed, we show that this is the case unless $R \cong k[[x_0, \ldots, x_d]]/(x_0^2 + \ldots + x_d^2)$. The starting point of the proof is a construction, due to Ringel, of a sufficiently complex module T of finite length. Next, one takes either a d^{th} or $(d+1)^{\mathrm{st}}$ reduced syzygy F of T (depending on the parity of d). Then a diagram chase produces a homomorphism of right $\mathrm{End_R}(F)$-modules $\mathrm{End_R}(M) \to \mathrm{Ext^1_R(F, T)}$ for which the image of the identity is the desired exact sequence $0 \to T \to M \to F \to 0$. (Received September 06, 2005)