1016-13-97 **Wolfgang Hassler**, **Ryan Karr**, **Lee Klingler** and **Roger Wiegand*** (rwiegand@math.unl.edu), Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130. *Indecomposable mixed modules of large rank.*

Let $(R, \mathfrak{m}, k)$ be a one-dimensional local ring. Our goal is to build indecomposable finitely generated modules with large rank. In most cases, even if R has finite representation type, one can build indecomposable *mixed* modules whose torsion-free parts have large rank. Exceptions include discrete valuation rings and *Dedekind-like* rings (essentially, (A_1)-singularities, e.g., $k[[x,y]]/(xy)$ and $\mathbb{R}[[x,y]]/(x^2+y^2)$). We show that, if R is not a homomorphic image of a Dedekind-like ring, then, for each positive integer n, there is an indecomposable finitely generated module M such that $M_P \cong R_P^{(n)}$ for every minimal prime ideal P. If $\mathrm{char}(k) \neq 2$, the existence of such modules is equivalent to wildness of the category of finite-length modules. A key idea in our construction is to produce an indecomposable finite-length module V and a torsion-free module N such that $\mathrm{Ext}^1_R(N, V)$ has big socle dimension. One then uses this fact to produce extensions $0 \to V \to M \to N^{(t)} \to 0$, with t large and M indecomposable. (Received February 05, 2006)