962-13-755   **Jim Coykendall*** (`Jim_Coykendall@ndsu.nodak.edu`), Department of Mathematics, North Dakota State University, Fargo, ND 58105-5075. *Bad Dimension and Stability Behavior for Power Series Rings.*

It is a classical result that if R is a ring (commutative with 1) of Krull dimension n, then the Krull dimension of R[x] is bounded above by 2n+1. In 1973, Jimmy Arnold showed that this is not the case for the power series ring R[[x]]. More precisely, Arnold showed that if R does not satisfy an almost Noetherian condition called the SFT (strong finite type) property, then dim(R[[x]]) is infinite. Since that time the converse to this result has remained open (that is, if R is finite dimensional and SFT, is R[[x]] finite dimensional?). In this talk we produce an example to show that R being finite dimensional and SFT does not imply finite dimensionality or SFT for R[[x]]. Possible new directions for the dimension question of R[[x]] will be explored. (Received September 25, 2000)