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George Robert Exner* (exner@bucknell.edu), Department of Mathematics, Bucknell University, Lewisburg, PA 17837. *Back step extensions of subnormal weighted shifts*. Preliminary report.

If W_α is a weighted shift on ℓ^2 with weight sequence $\alpha : \alpha_0, \alpha_1, \dots$, a “back step extension” is a weighted shift $W_{\alpha(x)}$ with weight sequence $\alpha(x) : x, \alpha_0, \alpha_1, \dots$. If W_α is subnormal, there is a standard test, based on the Berger measure associated with W_α , to determine the set of x for which $W_{\alpha(x)}$ is subnormal. This talk presents an alternative test not based on the Berger measure (and therefore in some sense “intrinsic”), and gives some consequences for the possible subnormality of shifts produced by iterating the operation of taking a back step extension. (Received September 22, 2005)