1046-47-1448   **Gregory Adams** and **George R Exner*** (`exner@bucknell.edu`), Department of Mathematics, Bucknell University, Lewisburg, PA 17837. *n-contractivity and k-hyponormality of some Bergman-like weighted shifts.* Preliminary report.

The classes of k-hyponormal operators on Hilbert space, $k = 1, 2, \ldots$, arise naturally from the Bram-Halmos characterization of subnormality. Similarly, the classes of n-contractive operators, $n = 1, 2, \ldots$, arise from the Agler-Embry characterization of a contractive subnormal operator. It is known that if a contraction is k-hyponormal it is $2k$-contractive. We provide examples of perturbations of Bergman-type weighted shifts for which an order k^2-contractivity implies (in fact, is equivalent to) k-hyponormality. The primary technique is the use of orthogonal polynomials to facilitate a determinant computation. (Received September 15, 2008)