1035-47-568   **George R. Exner*** (`exner@bucknell.edu`), Department of Mathematics, Bucknell University, Lewisburg, PA 17837, and **Il Bong Jung** and **Mi Ryeong Lee**. *Block matrix operators and p-hyponormality.* Preliminary report.

An operator T on Hilbert space is said to be p-hyponormal for some $p \in (0, \infty)$ if $(T^*T)^p \geq (TT^*)^p$. We consider a class of block matrix operators M whose blocks are $(r + s) \times (s + 1)$ matrices A_{ij} such that $A_{ij} = 0$ if $i \neq j$, and $A_{nn} = (a_{km})$ has nonzero entries only in positions for which either $m = 1$ and $1 \leq k \leq r$ or $r + 1 \leq k \leq r + s$ and $m = k - r$. These operators serve to distinguish the various p-hyponormal (and related) classes one from another. The approach taken is to note that these are certain composition operators arising from measurable transformations on the natural numbers. (Received September 11, 2007)

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