

1035-46-1173

Junsheng Fang* (jfang@cisunix.unh.edu), Mathematics Department UNH, 33 College Road, Kingsbury Hall, Durham, NH 03824, and **Don W. Hadwin.** *Unitarily Invariant Norms Related to Factor von Neumann Algebras.*

In 1937 J. von Neumann characterized all norms on the $n \times n$ complex matrices that are invariant under left and right multiplication by unitary operators. We extend von Neumann's theorem to all factor von Neumann algebras, and we apply our results to the noncommutative L^p -theory. (Received September 19, 2007)