never an operator norm. Moreover, a unital ring norm need not be the supremum of the operator norms it majorizes. There is an interesting characterization of those that are, as well as of the ring norms that majorize a unique operator norm. Maximal chains of ring norms have the order type of $[0, +\infty)$ and, finally, any order automorphism of the set of all ring norms is inner, in the sense that it is induced by an automorphism or antiautomorphism of the matrix algebra. The proof of the latter, which is lengthy, involves extending the automorphism to seminorms which are allowed to take the value $+\infty$. Thus a map of subalgebras, the domains of finiteness of these seminorms, is induced, from which it is possible eventually to construct the desired algebra automorphism or antiautomorphism.

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Vibration and coupling of continuous systems: asymptotic methods, by Jacqueline Sanchez Hubert and Enrique Sanchez Palencia. Springer-Verlag, Berlin, New York, 1989, 420 pp., $79.00. ISBN 3-450-19384-7

We have all been exposed at one time or another to a study of the motion of n point masses connected by linear springs and