

Some theorems on disjointness preserving operators

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Abstract

In this talk I will report on joint work with Gleb Sirotkin, Karim Boulabiar, and Melvin Henriksen. If a square matrix has at most one non zero number in each row then there exists a power of that matrix which, when restricted to the range of another power, is a diagonal matrix. In addition, an operator on a vector space is called algebraic if it satisfies a polynomial equation. Our main result will, in analogy with the matrix result, study the powers of order bounded disjointness preserving algebraic operators on vector lattices, but we will also discuss polar decomposition and representations of disjointness preserving operators. The results that we discuss will appear this fall in the American Mathematical Monthly, Electronic Research Announcements of the AMS, Proceedings of the AMS and the Journal of Mathematical Analysis and Applications. The talk will also be suitable for graduate students.