

When “nearly” is good enough

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In their 1995 paper Jafarian, Radjavi, Rosenthal and Sourour showed that a collection of compact operators on a Hilbert space is simultaneously triangularizable if and only if it is “nearly commutative”. In 2004 Yahagi strengthened the theory by showing that “near-triangularizability” implies triangularizability, and that in finite dimensions “near-reducibility” gives reducibility. In this short talk we will demonstrate the corresponding results for collections of (entry-wise) non-negative matrices, from the point of view of “standard triangularizability” (i.e. triangularizability via a simultaneous permutation similarity).