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**Victor Kaftal\*** (kaftalv@ucmail.uc.edu). *Diagonals of positive operators - an alternative approach.*

Finding which sequence  $\{\xi_i\}$  can be the diagonal of a given positive bounded operator  $A$  has been the focus of much research starting with the classic Schur-Horn theorem and including the more recent Kadison Pythagorean theorem. Recognizing that this problem is equivalent to finding the coefficients in the decomposition of  $A = \sum_j \xi_j P_j$  where  $P_j$  are rank-one projections, provides an additional, sometimes easier, approach. An illustration of this fact is the new proof of the sufficiency condition in the Kadison Pythagorean theorem (when  $A$  is a projection) and its extension to the case when  $A$  is a sum of (not necessarily mutually orthogonal) projections.

The talk is based on joint work with David Larson and is dedicated to the memory of Richard Kadison. (Received September 20, 2018)