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Ando's numerical radius theorem revisited

A classic theorem in operator theory is Ando's result on the structure of Hilbert space operators with numerical radius no larger than one. One way to view Ando's theorem is that it provides a solution to a certain matrix completion problem, where the matrix entries are Hilbert space operators. It is natural to ask whether Ando's theorem has a purely C*-algebraic formulation. Furthermore, by taking the view that Ando's theorem is a result concerning matrix completions, one can formulate a multivariable version of Ando's theorem and pose the question: what are the C*-algebras for which the multivariable form of Ando's theorem holds? The answer: precisely those C*-algebras that have the weak expectation property. This is joint work with Ali Kavruk and Vern Paulsen.