

”When Leading Imply All” and other recent results

Charles R. Johnson

College of William and Mary, USA

Abstract

Under what circumstances are all principal minors of a given matrix positive when the leading ones are? Two circumstances are known: symmetric matrices (implication positive definiteness) and Z-matrices (off-diagonal entries negative; implication M-matrices). We give a recent characterization of all such circumstances, which identifies a new and interesting class of matrices that unifies symmetric and Z-matrices. Time permitting, other recent results about LU factorization, etc will be given.