Inheritance properties of generalized Schur complements and principal pivot transforms of matrices

K.C. SIVAKUMAR
Department of Mathematics
Indian Institute of Technology Madras
Chennai (India)
kcskumar@iitm.ac.in

The notions of Schur complement and principal pivot transforms have been studied quite extensively in matrix theory. The importance of the Schur complement in problems arising in areas including numerical analysis and statistics is well documented in the literature. The notion of the principal pivot transform appears to have its roots in the theory of the linear complementarity problem. Many results on the preservation of matrix classes like the P-property are well known. Studies also have been extended to the case of the Moore-Penrose inverse in the definitions of the Schur complement and the principal pivot transform. In this talk, we report new results on the inheritance properties of these generalizations, in the context of certain matrix classes.

This is a joint work with K. BISHT (IIT Madras) and G. RAVINDRAN (ISI Chennai).