On incomplete decompositions of inverses

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Abstract

In this work we consider the approximate inverse decomposition AISM based on the Sherman-Morrison formula [1]. That decomposition is written as a product of three factors and a parameter s should be chosen. The existance of the AISM decomposition of a square matrix is studied in function of the parameter s of the decomposition. The factors obtained for two different values of the parameter are related. The relationship with the ILU decomposition is deduced for each factor.

Keywords

Preconditioning, Approximate inverses, Incomplete decompositions, Sherman-Morrison formula.

References:

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