

Extrapolated Modulus Algorithms for the Solution of the Linear Complementarity Problem with an H_+ -Matrix Coefficient

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The numerous applications the *Linear Complementarity Problem* (LCP) has as, e.g., in the solution of Linear and Convex Quadratic Programming, in Free Boundary Value problems of Fluid Mechanics, etc, makes its efficient numerical solution a very imperative and interesting area of research. For the solution of LCP many methods have been proposed especially when its matrix coefficient is a real symmetric positive definite or an H_+ -matrix. In this work we assume that the matrix coefficient $M \in \mathbf{R}^{n,n}$ of the LCP is an H_+ -matrix and propose a *(non)stationary extrapolation* of the *(Block) Modulus Algorithm* for its solution. As will be shown by theory and illustrative numerical examples the *(Non)stationary Extrapolated Block Modulus Algorithm* is far better than all other previous similar Algorithms.