

ON ONE PROPERTY OF INVERSES OF NONLINEAR OPERATORS ASSOCIATED WITH M–MATRICES

YURIY V. SHLAPAK

Abstract. In this paper we show that a certain class of nonlinear operators associated with M-matrices behaves similarly to M-matrices in the sense that their inverse operators map the cone of positive vectors of \mathbb{R}^n to itself. It is also proven that a certain iteration process can be used to find the values of these inverse operators at any point within the cone of positive vectors. Some results of computational experiments based on this iteration process are presented and discussed.

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