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ALGORITHMS FOR THE RICCATI EQUATION WITH A NONSINGULAR M-MATRIX*

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Dedicated to Dr. Dan Tiba on the occasion of his 70^{th} anniversary

Abstract

We consider different algorithms with linear rate of convergence for computing the minimal nonnegative solution of M-matrix algebraic Riccati equation. The performance of the considered algorithms are illustrated on numerical examples.

MSC: 15A24, 65F45.

keywords: M-matrix, iterative methods, algorithm, convergence rate, nonnegative solution.

1 Introduction

The nonsymmetric algebraic Riccati equations have been the topic of extensive research. These equations arise in many important applications,

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