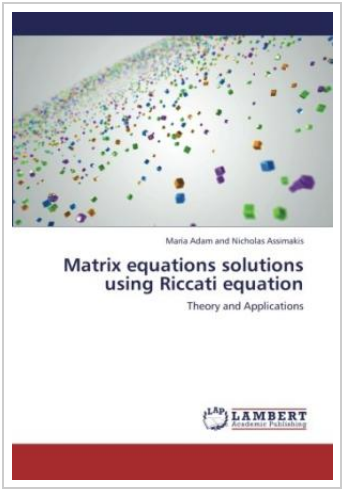

Matrix equations solutions using Riccati equation

By Maria Adam and Nicholas Assimakis

LAP Lambert Academic Publishing Sep 2012, 2012. Taschenbuch. Condition: Neu. Neuware - The nonlinear matrix equation X^+A X^{-s})A=Q, when A is a square matrix, Q is a square positive definite matrix and s an integer number, has been studied by several authors. Equations of this type arise in many problems of systems theory, discrete time control and in many applications in various research areas including filter design, ladder networks, dynamic programming, stochastic filtering and statistics. In the case that A is nonsingular and s=1, the associated matrix equation has many contributions in the theory, applications and numerical solution of the discrete algebraic Riccati equation. In this book, necessary and sufficient conditions for the existence of the Hermitian solutions are presented as well as an algebraic method based on the Riccati equation for the computation of these solutions is proposed. Inequalities for the eigenvalues of A, Q are presented. Bounds for the extreme eigenvalues of the minimal solution are derived. These results are verified through numerical experiments. This book concerns graduate students as well as researchers in the fields of Applied Mathematics, Electrical and Computer Engineering. 92 pp. Englisch.

Reviews

The very best publication i possibly read. it was writtern very perfectly and useful. Once you begin to read the book, it is extremely difficult to leave it before concluding.

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It is simple in go through preferable to comprehend. It is full of wisdom and knowledge It is extremely difficult to leave it before concluding, once you begin to read the book.

-- ***Leif Predovic***