

2015학년도 2학기

수학전공 Colloquium

제 목

Solving nonlinear matrix equations

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초

We consider several nonlinear matrix equations, for example the quadratic matrix equation

$$Q(X) = AX^2 + BX + C = 0,$$

where X is an $n \times n$ unknown complex matrix and A , B and C are $n \times n$ given matrices with complex elements, the matrix polynomial

$$P(X) = A_0X^m + A_1X^{m-1} + \dots + A_m = 0,$$

A_m, A_{m-1}, \dots, A_0 and X are real $n \times n$ matrices, etc.

The convergence of Newton's method, and incorporating exact line searches and relaxation method for solving nonlinear matrix equations are also considered.

록

We show that an elementwise minimal nonnegative solvent can be found by these methods with the zero starting matrix. Finally, functional iterations and conjugate gradient methods for computing solutions to equations $Q(X)$ and $P(X)$ are introduced.

일 시

11월 4일 수요일 5시

장 소

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