

INTISARI

KARAKTERISTIK MATRIKS- P

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Suatu matriks \mathbf{A} berukuran $n \times n$ atas \mathbb{R} dapat dipartisi menjadi beberapa submatriks. Submatriks terpartisi atas submatriks biasa dan submatriks utama. Determinan submatriks utama matriks \mathbf{A} disebut nilai minor utama matriks \mathbf{A} . Suatu matriks \mathbf{A} dikatakan matriks- P jika setiap nilai minor utama matriks \mathbf{A} bernilai positif. Jika jumlahan setiap nilai minor utama matriks \mathbf{A} bernilai positif maka matriks \mathbf{A} disebut matriks- Q . Apabila matriks \mathbf{A} dan \mathbf{A}^2 merupakan matriks- P maka matriks \mathbf{A} merupakan matriks- P^2 . Submatriks matriks \mathbf{A} yang merupakan matriks- P dapat digunakan untuk menentukan *Schur complements*, *nested sequence*, dan *compound matrix* matriks \mathbf{A} . Pada skripsi ini akan dibahas mengenai karakteristik matriks- P antara lain hubungan matriks- P dengan beberapa matriks seperti matriks *sign-symmetric*, matriks- Q dan matriks- P^2 juga hubungan matriks- P^2 yang mempunyai suatu *nested sequence* submatriks utama dengan *compound matrix*.

ABSTRACT

THE CHARACTERISTIC OF P -MATRICES

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A real $n \times n$ matrix \mathbf{A} can be partitioned to be several submatrices. Those submatrices are partitioned into ordinary submatrix and principal submatrix. The determinant of a principal submatrix of matrix \mathbf{A} can be considered as principal minor of matrix \mathbf{A} . A matrix \mathbf{A} can be regarded as P -matrix if each of principal minor of matrix \mathbf{A} is positive. If the sum of principal minor of matrix \mathbf{A} is positive then matrix \mathbf{A} is called Q -matrix. If matrix \mathbf{A} and \mathbf{A}^2 are P -matrix then matrix \mathbf{A} can be considered P^2 -matrix. A submatrix of matrix \mathbf{A} which is P -matrix can be used to determine the *Schur complements*, *nested sequence*, and *compound matrix* of matrix \mathbf{A} . This graduating paper discusses about the characteristic of P -matrices such as the relationship between the P -matrices and several matrices like *sign-symmetric* matrix, Q -matrix, and P^2 -matrix and the relationship of P^2 -matrix which have a *nested sequence* with *compound matrix*.