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Jordan Canonical Form: Theory and Practice

By Steven Weintraub

Morgan & Claypool. Paperback. Book Condition: New. Paperback. 108 pages. Dimensions: 9.2in. x 7.3in. x 0.3in. Jordan Canonical Form (JCF) is one of the most important, and useful, concepts in linear algebra. The JCF of a linear transformation, or of a matrix, encodes all of the structural information about that linear transformation, or matrix. This book is a careful development of JCF. After beginning with background material, we introduce Jordan Canonical Form and related notions: eigenvalues, (generalized) eigenvectors, and the characteristic and minimum polynomials. We decide the question of diagonalizability, and prove the Cayley-Hamilton theorem. Then we present a careful and complete proof of the fundamental theorem: Let V be a finite-dimensional vector space over the field of complex numbers \mathbb{C} , and let $T : V \rightarrow V$ be a linear transformation. Then T has a Jordan Canonical Form. This theorem has an equivalent statement in terms of matrices: Let A be a square matrix with complex entries. Then A is similar to a matrix J in Jordan Canonical Form, i. e. , there is an invertible matrix P and a matrix J in Jordan Canonical Form with $A = PJP^{-1}$. We further present an algorithm to find P and J , assuming...



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Reviews

This book is definitely not simple to begin on studying but quite fun to see. I actually have read and that i am sure that i will gonna read through yet again once again in the foreseeable future. It is extremely difficult to leave it before concluding, once you begin to read the book.

-- **Brennan Koelpin**

Comprehensive guide! Its this type of very good read through. It is actually writter in simple words and phrases rather than difficult to understand. It is extremely difficult to leave it before concluding, once you begin to read the book.

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