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Regular Representations of Finite Groups; 5 Doubly Stochastic Matrices in Angular Momentum Theory; 5.1 Introduction; 5.2 Abstractions and Interpretations; 5.3 Permutation Matrices as Doubly Stochastic; 5.4 The Doubly Stochastic Matrix for a Single System with Angular Momentum J ; 5.4.1 Spin-1/2 System; 5.4.2 Angular Momentum- j System
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 7.3 Strict Gelfand-Tsetlin Patterns for $= (n \ n \ 1 \ \dots \ 2 \ 1)$

Sommario/riassunto

This monograph is a synthesis of the theory of the pairwise coupling of the angular momenta of arbitrarily many independent systems to the total angular momentum in which the universal role of doubly stochastic matrices and their quantum-mechanical probabilistic interpretation is a major theme. A uniform viewpoint is presented based on the structure of binary trees. This includes a systematic method for the evaluation of all $3n-j$ coefficients and their relationship to cubic graphs. A number of topical subjects that emerge naturally are also developed, such as the algebra of permutation matrices