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Autore	Kim Shoon Kyung <1920->
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Descrizione fisica	1 online resource (xvi, 492 pages) : digital, PDF file(s)
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Nota di contenuto	; 1. Linear transformations -- ; 2. Theory of matrix transformations -- ; 3. Elements of abstract group theory -- ; 4. Unitary and orthogonal groups -- ; 5. Point groups of finite order -- ; 6. Theory of group representations -- ; 7. Construction of symmetry-adapted linear combinations based on the correspondence theorem -- ; 8. Subduced and Induced representations -- ; 9. Elements of continuous groups -- ; 10. Representations of the rotation group -- ; 11. Single- and double- valued representations of point groups -- ; 12. Projective representations -- ; 13. 230 space groups -- ; 14. Representations of the space groups -- ; 15. Applications of unirreps of space groups to energy bands and vibrational modes of crystals.
Sommario/riassunto	This book explains the basic aspects of symmetry groups as applied to

problems in physics and chemistry using an approach pioneered and developed by the author. The symmetry groups and their representations are worked out explicitly, eliminating the undue abstract nature of group theoretical methods. The author has systemized the wealth of knowledge on symmetry groups that has accumulated in the century since Fedrov discovered the 230 space groups. All space groups, unitary as well as antiunitary, are reconstructed based on the algebraic defining relations of the point groups. This work will be of great interest to graduate students and professionals in solid state physics, chemistry, mathematics, geology and those who are interested in magnetic crystal structures.
