

1. Record Nr.	UNISA996499860103316
Autore	Davis V. T.
Titolo	Introduction to photoelectron angular distributions : theory and applications // V. T. Davis
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	9783031080272 9783031080265
Descrizione fisica	1 online resource (338 pages)
Collana	Springer tracts in modern physics ; ; Volume 286
Disciplina	537.54
Soggetti	Photoemission Angular distribution (Nuclear physics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Intro -- Acknowledgments -- Contents -- Chapter 1: Introduction -- Chapter 2: Angular Momentum in Quantum Mechanics -- 2.1 Commutation Relations of Angular Momentum Operators -- 2.2 Construction of Eigenstates and the Spectrum of Eigenvalues -- 2.3 Matrix Elements of Angular Momentum Operators -- 2.4 Orbital Angular Momentum and the Spherical Harmonics -- 2.5 The Addition Theorem for Spherical Harmonics -- 2.6 Rotations in Quantum Mechanics -- 2.7 Matrix Elements of the Rotation Operators -- 2.8 The Coupling of Two Angular Momenta -- 2.9 The Clebsch-Gordan Coefficients -- 2.10 The Clebsch-Gordan Series -- 2.11 The Coupling of Three Angular Momenta -- 2.12 Spherical Tensor Operators and the Wigner-Eckart Theorem -- Chapter 3: Classical Model of Photoelectron Angular Distributions -- Chapter 4: Quantum Treatment of Photoelectron Angular Distributions (Dipole Approximation) -- Chapter 5: Higher-Order Multipole Terms in Photoelectron Angular Distributions -- Chapter 6: Relativistic Theory of Photoelectron Angular Distributions -- Chapter 7: Angular Momentum Transfer Theory -- Chapter 8: Molecular Photoelectron Angular Distributions -- Chapter 9: Measuring Photoelectron Angular Distributions in the Laboratory -- Chapter 10: Applications of Photoelectron Angular Distribution Measurements -- Appendixes -- Appendix A: Proof of Equation (2.68)

and Evaluation of the Integral -- Appendix B: The Racah Formula for the Clebsch-Gordan Coefficients -- Clebsch-Gordan Coefficient Recursion Relation -- The Racah Formula for the Clebsch-Gordan Coefficients -- Appendix C: The 6-j Symbols and the Racah Formula (2.172) -- Appendix D: The 9-j Symbols -- Appendix E: Hamiltonian for the Interaction of an Electron with an Electromagnetic Field. Appendix F: Integral Representation of the Spherical Bessel Functions and the Expansion of Plane Waves in Terms of Spherical F... -- Integral Representation of the Spherical Bessel Functions -- Expansion of Plane Waves in Terms of Spherical Functions -- Appendix G: Basic Theory of the Design of the COLTRIMS Reaction Microscope -- Recoil Ion Detection -- Geometric Analysis -- Electron Detection -- Bibliography.
