

Access Free
Symmetry And
Spectroscopy
Harris

**Symmetry
And Spectr
oscopy
Harris**

It is gratifying to launch the third edition of our book. Its coming to life testifies about the task it

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Harris

has fulfilled in the service of the community of chemical research and learning. As we noted in the Prefaces to the first and second editions, our book surveys chemistry from the point of view of symmetry.

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We present many examples from chemistry as well as from other fields to emphasize the unifying nature of the symmetry concept. Our aim has been to provide aesthetic pleasure in addition to

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learning
Harris.

experience. In our
?rst Preface we
paid tribute to
two books in
particular from
which we learned
a great deal; they
have in?uenced
signi?cantly our
approach to the
subject matter of

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Spectroscopy

Harris
our book. They
are Weyl's classic,
Symmetry, and
Shubnikov and
Koptsik's
Symmetry in
Science and Art.
The structure of
our book has not
changed.

Following the Int-
duction (Chapter

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1), Chapter 2 presents the simplest symmetries using chemical and non-chemical examples. Molecular geometry is discussed in Chapter 3. The next four chapters

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present group-
theoretical
methods (Chapter
4) and, based on
them, discussions
of molecular
vibrations
(Chapter 5),
electronic
structures
(Chapter 6), and
chemical

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reactions

(Chapter 7). For the last two chapters we return to a qualitative treatment and introduce space-group symmetries (Chapter 8), concluding with crystal structures

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(Chapter 9). For the third edition we have further revised and streamlined our text and renewed the illustrative material.

The first IUPAC
Manual of
Symbols and
Terminology for

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Physicochemical
Quantities and
Units (the Green
Book) of which
this is the direct
successor, was
published in 1969,
with the object of
'securing clarity
and precision, and
wider agreement
in the use of

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symbols, by chemists in different countries, among physicists, chemists and engineers, and by editors of scientific journals'. Subsequent revisions have

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taken account of
many
developments in
the field,
culminating in the
major extension
and revision
represented by
the 1988 edition
under the
simplified title
Quantities, Units

Access Free
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Spectroscopy
Harris
and Symbols in
Physical

Chemistry. This
2007, Third
Edition, is a
further revision of
the material
which reflects the
experience of the
contributors with
the previous
editions. The book

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has been
Harris
systematically
brought up to
date and new
sections have
been added. It
strives to improve
the exchange of
scientific
information
among the
readers in

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different disciplines and across different nations. In a rapidly expanding volume of scientific literature where each discipline has a tendency to retreat into its own jargon this

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Harris
book attempts to
provide a
readable
compilation of
widely used terms
and symbols from
many sources
together with
brief
understandable
definitions. This is
the definitive

Access Free
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guide for
Harris
scientists and
organizations
working across a
multitude of
disciplines
requiring
internationally
approved
nomenclature.
Informal, effective
undergraduate-

Access Free
Symmetry And
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level text

Harris
introduces

vibrational and

electronic

spectroscopy,

presenting

applications of

group theory to

the interpretation

of UV, visible, and

infrared spectra.

200 problems

Access Free
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Spectroscopy
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with solutions.

Numerous
illustrations.

This textbook
offers an
introduction to
the foundations of
spectroscopic
methods and
provides a bridge
between basic
concepts and

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experimental applications in fields as diverse as materials science, biology, solar energy conversion, and environmental science. The author emphasizes the use of time-

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Harris
dependent theory
to link the
spectral response
in the frequency
domain to the
behavior of
molecules in the
time domain,
strengthened by
two brand new
chapters on
nonlinear optical

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spectroscopy and
time-resolved
spectroscopy.

Theoretical
underpinnings are
presented to the
extent necessary
for readers to
understand how
to apply
spectroscopic
tools to their own

Access Free
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interests.

Harris
Exploring
Chemical Analysis
Molecular
Vibrations
Quantities, Units
and Symbols in
Physical
Chemistry
Materials for
Infrared Windows
and Domes

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Harris
An Introduction to
the Origin and
Consequences of
Chirality

The biggest change
in the years since
the first edition is
the proliferation of
computational
chemistry programs
that calculate
molecular

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properties.

McQuarrie presents step-by-step SCF calculations of a helium atom and a hydrogen molecule, in addition to including the Hartree-Fock method and post-Hartree-Fock methods.

This comprehensive

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text provides
readers with a
thorough
introduction to
molecular symmetry
and group theory as
applied to chemical
problems. Its
friendly writing style
invites the reader to
discover by example
the power of
symmetry

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arguments for
understanding
otherwise
intimidating
theoretical problems
in chemistry. A
unique feature
demonstrates the
centrality of
symmetry and group
theory to a complete
understanding of the
theory of structure

Access Free
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and bonding."

Fundamental
Concepts."

Representations of
Groups."

Techniques and
Relationships for
Chemical
Applications."

Symmetry and
Chemical Bonding."
Equations for Wave
Functions."

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Vibrational
Harris
Spectroscopy."

Transition Metal
Complexes.

The content of this
volume has been
added to eMagRes
(formerly
Encyclopedia of Ma
gnetic Resonance) -
the [ahref="http://onli
nelibrary.wiley.com/
book/10.1002/97804](http://onlinelibrary.wiley.com/book/10.1002/97804)

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70034590/homepage/rf_coils_virtual_issue.htm?cm=on-chem&cs=chem-analytic&cu=sitename-In&cd=sitename-In-MRIgroup-VI" target="_blank"ultimate online resource for NMR and MRI/a. The term "NMR Crystallography" has only recently

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come into common usage, and even now causes raised eyebrows within some parts of the diffraction community. The power of solid-state NMR to give crystallographic information has considerably increased since

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Harris
theCPMAS suite of techniques was introduced in 1976. In the first years of the 21st century, the ability of NMR to provide information to support and facilitate the analysis of single-crystal and powder diffraction patterns has become

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widely accepted.

Indeed, NMR can now be used to refine diffraction results and, in favorable cases, to solve crystal structures with minimal (or even no) diffraction data. The increasing ability to relate chemical shifts (including the tensor

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components) to
the crystallographic
location of relevant
atoms in the unit cell
via computational
methods has added
significantly to the
practice of NMR
crystallography.
Diffraction experts
will increasingly
welcome NMR as an
allied technique in

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their structural analyses. Indeed, it may be that in the future crystal structures will be determined by simultaneously fitting diffraction patterns and NMR spectra. This Handbook is organised into six sections. The first

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Harris
contains an overview
and some articles
on fundamental
NMR topics,
followed by a section
concentrating on
chemical shifts, and
one on
coupling interactions.
The fourth section
contains articles
describing how NMR
results relate to

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fundamental
crystallography
concepts and
todiffraction
methods. The fifth
section concerns
specific aspects
ofstructure, such as
hydrogen bonding.
Finally, four articles
in thesixth section
give applications of
NMR

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crystallography
to structural biology,
organic &
pharmaceutical
chemistry, inorganic
& materials
chemistry, and
geochemistry. About
EMR Handbooks /
eMagRes Handbook
s The Encyclopedia
of Magnetic
Resonance (up to

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2012) and eMagRes
(from 2013 onward)

publish a wide
range of

online articles on all
aspects of magnetic
resonance in

physics, chemistry,
biology and

medicine. The

existence of this

large number of

articles, written by

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experts in various fields, is enabling the publication of a series of EMR

Handbooks / eMagRes Handbook
s on specific areas of NMR and MRI.

The chapters of each of these handbooks will comprise a carefully chosen selection of articles

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from eMagRes. In consultation with the eMagRes Editorial Board, the EMR Handbooks / eMagRes Handbooks are coherently planned in advance by specially-selected Editors, and new articles are written (together with

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updates of some
already

existing articles) to
give appropriate
complete coverage.

The handbooks
are intended to be of
value and interest to
research students, p
ostdoctoral fellows
and other
researchers learning
about the scientific

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area in question and undertaking relevant experiments, whether in academia or industry. Have the content of this Handbook and the complete content of eMagRes at your fingertips! Visit: <http://www.wileyonlinelibrary.com/ref/eMagRes>

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other eMagRes
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http://onlinelibrary.wi
ley.com/book/10.10
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homepage/emagres
_publications.htm" t
arget="_blank"here/
a

For beginners and
specialists in other

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Harris
fields: the Nobel
Laureate's

introduction to
atomic spectra and
their relationship to
atomic structures,
stressing basics in a
physical, rather than
mathematical,
treatment. 80
illustrations.

Properties and
Performance

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Spectroscopy

Molecular Symmetry

And Group Theory

Window Functions

and Their

Applications in

Signal Processing

Molecules and

Radiation

Symmetry in

Chemistry

Retains the easy-to-

read format and

informal flavor of the

Access Free Symmetry And Spectroscopy

previous editions, and includes new material on the symmetric properties of extended arrays (crystals), projection operators, LCAO molecular orbitals, and electron counting rules. Also contains many new exercises and illustrations.

This text provides a

Access Free Symmetry And Spectroscopy Harris

comprehensive
introduction to
infrared-transparent
materials for windows
and domes that must
withstand harsh
environmental
conditions, such as
high-speed flight or
high temperature
process monitoring.
Introductory material
in each section makes

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Harris

the book suitable for anyone with a background in science or engineering.

This book provides a fresh, photon?based description of modern molecular spectroscopy and photophysics, with applications drawn from chemistry, biology, physics and

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materials science. The concise and detailed approach includes some of the most recent devel

`In the second edition of Principles I have attempted to maintain the emphasis on basics, while updating the examples to include more recent results from the

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Harris
literature. There is a new chapter providing an overview of extrinsic fluorophores. The discussion of timeresolved measurements has been expanded to two chapters. Quenching has also been expanded in two chapters. Energy

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transfer and anisotropy have each been expanded to three chapters. There is also a new chapter on fluorescence sensing. To enhance the usefulness of this book as a textbook, most chapters are followed by a set of problems. Sections which describe

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advanced topics are indicated as such, to allow these sections to be skipped in an introduction course.

Glossaries are provided for commonly used acronyms and mathematical symbols. For those wanting additional information, the final

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Spectroscopy

appendix contains a list of recommended books which expand on various specialized topics.' from the author's Preface

Coordination

Chemistry

Approaches in

Spectroscopy and

Chemical Reactions

Molecular

Photophysics and

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Harris

Spectroscopy
Group Theory and
Chemistry

Principles of
Fluorescence
Spectroscopy

*The gold
standard in
analytical
chemistry, Dan
Harris'
Quantitative*

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Harris

*Chemical
Analysis
provides a
sound physical
understanding
of the principles
of analytical
chemistry and
their
applications in
the disciplines.
An overview of*

Access Free
Symmetry And
Spectroscopy

*the importance
and*

*consequences of
asymmetry from
molecules to the
macroscopic
world As
scientists have
become more
capable of
probing the
structure of thre*

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Spectroscopy

Harris
e-dimensional
objects at the
molecular level,
the need to
understand the
concept and the
consequences of
mirror-image as
ymmetry—chiral
ity—has
increased
enormously.

Access Free
Symmetry And
Spectroscopy
Harris

*Written at an
introductory
level, Mirror-
Image*

*Asymmetry
provides an
overview of the
importance and
effects of
asymmetry from
the atomic and
molecular world*

Access Free
Symmetry And
Spectroscopy

Harris
*of physics and
chemistry to the
organisms and
structures that
we see and use
in our everyday
life. The reader
will develop a
broad
appreciation of t
hree-
dimensional*

Access Free
Symmetry And
Spectroscopy

*asymmetry from
the microscopic
molecular world
to the
macroscopic
world of
handedness,
automobile
driving,
windmills,
sports, and
similar*

Access Free
Symmetry And
Spectroscopy

phenomena. The
book features:

*An introduction
to basic
definitions and
the
nomenclature of
asymmetric and
dissymmetric
molecules Up-to-
date examples
of the*

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Symmetry And
Spectroscopy
Harris

*importance and
consequences of
asymmetry in
modern drug
applications,
current theories
of the origin of
asymmetry in
nature, and
examples of
molecular
asymmetry in*

Access Free
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Spectroscopy

Harris
*smell, taste, and
insect*

communication

Many

illustrations,

chemical

structures, and

photographs

that enable the

reader to

connect the

actual

Access Free
Symmetry And
Spectroscopy

*asymmetrical
structures to
the different
phenomena that
depend on
structural
asymmetry In
the 150 years
since Louis
Pasteur
discovered
asymmetry in*

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Spectroscopy
Harris

*molecular
structures,
scientists have
made great
progress in
understanding
how interactions
between chiral
molecules
influence
biochemical
processes. This*

Access Free
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Spectroscopy

*knowledge is
leading to very
sophisticated
asymmetric
synthetic
techniques that
have greatly
benefitted many
research groups
especially those
in the
pharmaceutical*

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Spectroscopy

Harris
industry. This
guide to the role
of molecular
and
macroscopic
chirality will
inspire students
and scientists in
chemistry,
biology, physics,
and drug
discovery.

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Spectroscopy

*Building on the
foundation of
the Second
Edition,
Symmetry and
Structure:
Readable Group
Theory for
Chemists, Third
Edition turns
the complex and
potentially*

Access Free
Symmetry And
Spectroscopy

Harris
difficult subject
of group theory
into an
accessible and
readable
account of this
core area of
chemistry. By
using a
diagrammatical
approach and
demonstrating

Access Free
Symmetry And
Spectroscopy
Harris

the physical principles involved in understanding group theory, the text provides a non-mathematical, yet thorough, treatment of this broad topic. This new edition

Access Free
Symmetry And
Spectroscopy

*has been fully
revised and
updated to
include a much
more three-
dimensional and
accurate
visualization of
many of the key
topics. The
chapter on
octahedral*

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Symmetry And
Spectroscopy
Harris

molecules is extended to cover the important topic of the ligand field theory of octahedral transition metal complexes.

Problems and summaries are included at the

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Spectroscopy
Harris

*end of each
chapter, the
book provides
detailed
answers to
frequently
asked questions,
and numerous
diagrams and
tables are
featured for
ease of reading*

Access Free
Symmetry And
Spectroscopy

*and to enhance
student*

understanding.

*Symmetry and
Structure:*

Readable Group

Theory for

Chemists, Third

Edition is an

essential

textbook for all

students,

Access Free
Symmetry And
Spectroscopy

*researchers and
lecturers in
chemistry,
biochemistry,
chemical
engineering,
physics and
material
science.*

*The latest
edition of this
highly*

Access Free
Symmetry And
Spectroscopy

*acclaimed title
introduces the
reader to a wide
range of
spectroscopies,
and includes
both the
background
theory and
applications to
structure
determination*

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Spectroscopy
Harris

*and chemical
analysis. It
covers
rotational,
vibrational,
electronic,
photoelectron
and Auger
spectroscopy, as
well as EXAFs
and the theory
of lasers and*

Access Free
Symmetry And
Spectroscopy
Harris

laser

*spectroscopy. **

*A revised and updated edition of a successful, clearly written book * Includes the latest developments in modern laser techniques, such as cavity*

Access Free
Symmetry And
Spectroscopy
Harris

*ring-down
spectroscopy
and
femtosecond
lasers **

*Provides
numerous
worked
examples,
calculations and
questions at the
end of chapters*

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Spectroscopy
Harris

*Quantum
Chemistry
Handbook of
High-resolution
Spectroscopy
Molecular
Spectroscopy
Readable Group
Theory for
Chemists*

Determining the

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structure of molecules is a fundamental skill that all chemists must learn.

Structural
Methods in
Molecular
Inorganic
Chemistry is
designed to
help readers

Access Free
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interpret
Harris
experimental
data,
understand the
material
published in
modern journals
of inorganic
chemistry, and
make decisions
about what
techniques will
be the most

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useful in
Harris
solving
particular
structural
problems.
Following a
general
introduction to
the tools and
concepts in
structural
chemistry, the
following

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topics are covered in detail:

- computational chemistry
- nuclear magnetic resonance spectroscopy
- electron paramagnetic resonance spectroscopy

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Mössbauer
spectroscopy •
rotational
spectra and
rotational
structure •
vibrational
spectroscopy •
electronic char
acterization
techniques •
diffraction
methods • mass

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spectrometry
The final
chapter
presents a
series of case
histories,
illustrating
how chemists
have applied a
broad range of
structural
techniques to
interpret and

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Harris

understand
chemical
systems.
Throughout the
textbook a
strong
connection is
made between
theoretical
topics and the
real world of
practicing
chemists. Each

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chapter
concludes with
problems and
discussion
questions, and
a supporting
website
contains
additional
advanced
material.
Structural
Methods in

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Molecular
Inorganic
Chemistry is an
extensive
update and
sequel to the
successful
textbook
Structural
Methods in
Inorganic
Chemistry by
Ebsworth,

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Rankin and
Harris
Cradock. It is
essential
reading for all
advanced
students of
chemistry, and
a handy
reference
source for the
professional
chemist.

This text for

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Harris
advanced
undergraduate
and graduate
students guides
the reader
through a
smooth
progression
from the most
elementary
ideas of
molecular
orbital theory

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to an
Harris
understanding
of the
electronic
structure,
geometry, and
reactivity of
large
molecules. It
starts with
simple
molecules and
proceeds to

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relatively
large
organometallic
complexes. The
slant is
theoretical,
but in the last
chapter the
authors
strengthen the
link between
theory and
experiment.

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Focusing on basic concepts, the authors take a qualitative approach, which enables this text to fill a void in the undergraduate curriculum. The book is intended as a

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core or
supplementary
text in an
advanced
chemistry
course.

This book is
intended for
the high-
resolution
molecular
spectroscopist
who would like

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to learn how to
understand
molecules and
molecular
spectra using
group theory.
It explains the
use of the
molecular
symmetry group
and the three-
dimensional
rotation group

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in
Harris
understanding
molecules and
their spectra.
Examples are
presented
throughout
which are felt
to be the most
useful for the
high-resolution
spectroscopist,
including

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Harris
discussion of
the hydrogen
dimer and the
ammonia dimer
in detail.

Topics covered
include
symmetry
labelling of
molecular
energy levels,
nuclear spin
statistics,

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Hamiltonian
Harris

operators, wave
functions,
energy levels
and
interactions,
transition
intensities and
optical
selection
rules, non-
rigid
molecules,

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Harris
weakly bound
cluster (or van
der Waals)
molecules,
linear
molecules, and
electron spin
double groups.
Includes index.
Spectroscopic
Methods in
Mineralogy and
Material

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Science covers significant advances in the technological aspects and applications of spectroscopic and microscopic techniques used in the Earth and Materials Sciences. The current volume

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Harris
compliments the
now classic
Volume 18,
Spectroscopic
Methods in
Mineralogy and
Geology, which
became an
essential
resource to
many scientists
and educators
for the past

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two decades.

This volume
updates
techniques
covered in
Volume 18, and
introduces new
techniques
available for
probing the
secrets of
Earth
materials, such

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Harris
as X-ray Raman
and Brillouin
spectroscopy.
Other important
topics
including
Transmission
Electron
Microscopy
(TEM) and
Atomic Force
Microscopy
(AFM) are also

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covered.

Molecular

Symmetry and

Spectroscopy

An Introduction

to Molecular

Orbitals

Introduction to

Crystallography

Electrochemical

Studies in

Cyclic Esters

Quantitative

Access Free
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Harris
Chemical
Analysis

Comprehensive, Up-to-Date Coverage of Spectroscopy Theory and its Applications to Biological Systems

Although a multitude of books have been published about spectroscopy, most of them only occasionally refer to biological

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systems and the
specific problems of
biomolecular EPR
(bioEPR).

Biomolecular EPR
Spectroscopy provides
a practical
introduction to
bioEPR and
demonstrates how this
remarkable tool allows
researchers to delve
into the structural,

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functional, and
analytical analysis of
paramagnetic
molecules found in the
biochemistry of all
species on the planet.

A Must-Have
Reference in an
Intrinsically
Multidisciplinary Field

This authoritative
reference seamlessly
covers all important

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Harris
bioEPR applications,
including low-spin and
high-spin
metalloproteins, spin
traps and spin lables,
interaction between
active sites, and redox
systems. It is loaded
with practical tricks as
well as do ' s and
don ' ts that are based
on the author ' s 30
years of experience in

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the field. The book also comes with an unprecedented set of supporting software designed with simple graphical user interfaces that allow readers to tackle problems they will likely encounter when engaged in spectral analysis. Breaking with convention, the

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book brochures
quantum mechanics
from the perspective
of biological
relevance,
emphasizing low-
symmetry systems.
This is a necessary
approach since
paramagnets in
biomolecules typically
have no symmetry.
Where key topics

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Harris
related to quantum mechanics are addressed, the book offers a rigorous treatment in a style that is quick-to-grasp for the non expert. Biomolecular EPR Spectroscopy is a practical, all-inclusive reference sure to become the industry standard.

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We have been gratified by the warm reception of our book, by reviewers, colleagues, and students alike. Our interest in the subject matter of this book has not decreased since its first appearance; on the contrary. The first and second editions envelop eight other

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symmetry-related
books in the creation
of which we have
participated: I.

Hargittai (ed.),
Symmetry: Unifying
Human
Understanding,
Pergamon Press, New
York, 1986. I.

Hargittai and B. K.
Vainshtein (eds.),
Crystal Symmetries.

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Shubnikov Centennial
Papers, Pergamon
Press, Oxford, 1988.

M. Hargittai and I.
Hargittai, Fedezsiikf6l
a szimmetri6t!

(Discover Sym- try, in
Hungarian),

Tank6nyvkiad6,

Budapest, 1989. I.

Hargittai (ed.),

Symmetry 2: Unifying
Human

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Symmetry And
Spectroscopy

Harris
Understanding,
Pergamon Press,
Oxford, 1989. I.
Hargittai (ed.),
Quasicrystals,
Networks, and
Molecules of Fivefold
Sym- try, VCH, New
York, 1990. I.
Hargittai (ed.),
Fivefold Symmetry,
World Scientific,
Singapore, 1992. I.

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Symmetry And
Spectroscopy

Hargittai and C. A.
Pickover (eds.), *Spiral
Symmetry*, World
Scientific, Singapore,
1992. I. Hargittai and
M. Hargittai,
*Symmetry: A Unifying
Concept*, Shelter
Publi- tions, Bolinas,
California, 1994. We
have also pursued our
molecular structure
research, and some

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books have appeared
related to these

activities: vi Preface to
the Second Edition I.

Hargittai and M.

Hargittai (eds.),

Stereochemical

Applications of Gas-

Phase Electron

Diffraction, Parts A

and B, VCH, New

York, 1988. R.

Gillespie and I.

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Hargittai, VSEPR
Model of Molecular
Geometry, Allyn and
Bacon, Boston, 1991.
A. Domenicano and I.
Hargittai (eds.),
Accurate Molecular
Structures, Oxford
University Press,
Oxford, 1992.
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