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Spectroscopy of Organic Compounds Introduction to Spectroscopy Organic Reactions And Their Mechanisms Organic Spectroscopy Organic Spectroscopy Spectroscopy of Organic Compounds Pharmaceutical, Medicinal and Natural Product Chemistry Elementary Organic Spectroscopy Stereochemistry Organic Reactions And Their Mechanisms Modern Techniques of Spectroscopy Problems and Solution in Proton NMR Spectroscopy Atomic And Molecular Spectroscopy Concise Organic Spectroscopy Problems with solutions Organic Spectroscopy Stereochemistry of Organic Compounds Nuclear Magnetic Resonance Stereochemistry and Mechanism Through Solved Problems Spectrometric Identification of Organic Compounds Photochemistry And Pericyclic Reactions Spectroscopy Annual Reports on NMR Spectroscopy PROCEEDINGS OF NATIONAL SEMINAR ON MULTIDISCIPLINARY RESEARCH AND PRACTICE VOLUME 2 MOLECULAR STRUCTURE AND SPECTROSCOPY Recent Trends in Materials and Devices Symmetry and Spectroscopy NANOMATERIALS Effective Tool for Chemical Transformations March's Advanced Organic Chemistry Practical Chemoinformatics Comprehensive Practical Organic Chemistry Chiroptical Spectroscopy Stereochemistry of Organic Compounds Textbook of Physical Chemistry Handbook of Forensic Analytical Toxicology Elementary Practical Organic Chemistry: Qualitative Organic Analysis Part 2 Organic Structure Determination Using 2-D NMR Spectroscopy Luminescence and Its Applications 97 Sustainable Energy-Water-Environment Nexus in Deserts Symmetry and Spectroscopy of Molecules Fundamentals of Molecular Spectroscopy

Recent Trends in Materials and Devices Jul 31 2021 This book presents the proceedings of the International Conference on Recent Trends in Materials and Devices, which was conceived as a major contribution to large-scale efforts to foster Indian research and development in the field in close collaboration with the community of non-resident Indian researchers from all over the world. The research articles collected in this volume - selected from among the submissions for their intrinsic quality and originality, as well as for their potential value for further collaborations - document and report on a wide range of recent and significant results for various applications and scientific developments in the areas of Materials and Devices. The technical sessions covered include photovoltaics and energy storage, semiconductor materials and devices, sensors, smart and polymeric materials, optoelectronics, nanotechnology and nanomaterials, MEMS and NEMS, as well as emerging technologies.

Fundamentals of Molecular Spectroscopy Apr 15 2020

Spectroscopy Dec 04 2021 Spectroscopy can be defined as the study of the interaction of electromagnetic radiation with matter, during which absorption, emission, or scattering of radiation may take place. The structure and chemical properties of a system can easily be understood and studied with the help of atomic and molecular spectroscopic techniques because there exists a fundamental relationship between the properties of a substance and the interaction of radiation with that substance. The importance of spectroscopy in the physical and chemical processes going on in planets, stars, and comets as well as in the interstellar medium has been continuously growing as a result of the use of satellites and the development of radiotelescopes for the microwave and millimeter wave regions. This book on spectroscopy gives a wealth of information that may be derived from spectra.

Symmetry and Spectroscopy of Molecules May 17 2020

Handbook of Forensic Analytical Toxicology Oct 22 2020 This book is a comprehensive guide to forensic analytical toxicology for trainees in forensic medicine and forensic scientists. The second edition has been fully revised to provide clinicians with the latest developments and research in the field. New chapters covering the latest analytical instruments have been added to this edition. Beginning with guidance on setting up a modern toxicology laboratory, the next sections, with the help of flow charts, explain the procedures for collection, preservation, extraction, and clean up; and screening and colour tests for various poisons. The following chapters describe numerous major and minor analytical instruments and techniques, and their application in forensic toxicology. The text is further enhanced by clinical images, figures and tables. The previous edition (9789351522249) published in 2014.

March's Advanced Organic Chemistry Apr 27 2021 The Sixth Edition of a classic in organic chemistry continues its tradition of excellence Now in its sixth edition, March's Advanced Organic Chemistry remains the gold standard in organic chemistry. Throughout its six editions, students and chemists from around the world have relied on it as an essential resource for planning and executing synthetic reactions. The Sixth Edition brings the text completely current with the most recent organic reactions. In addition, the references have been updated to enable readers to find the latest primary and review literature with ease. New features include: More than 25,000 references to the literature to facilitate further research Revised mechanisms, where required, that explain concepts in clear modern terms Revisions and updates to each chapter to bring them all fully up to date with the latest reactions and discoveries A revised Appendix B to facilitate correlating chapter sections with synthetic transformations

Nuclear Magnetic Resonance Apr 08 2022 Although the practice of NMR spectroscopy has changed hugely over the last 20 years, the physical principles of liquid-state NMR, with which this book is concerned, remain essentially the same. The origins of chemical shifts, spin-spin couplings, chemical exchange, and spin relaxation, and their effects on the appearance of NMR spectra, were all already pretty well understood by 1995, at least at the level of most undergraduate chemistry courses. As a consequence, the ground covered by this second edition does not differ greatly from the first. The most significant additions, aimed at making the coverage of experimental techniques a little more contemporary, are sections on INEPT, HSQC, and three-dimensional NMR.

Concise Organic Spectroscopy Problems with solutions Jul 11 2022 This book "Concise Organic Spectroscopy-Problems with solutions" illustrates the determination of structures of organic compounds by spectroscopic methods, which are generally incorporated in the syllabi of Indian universities for undergraduate and postgraduate courses. It covers the introductory part of all the spectroscopy techniques with questions and answers. It also describes structure elucidation of organic compounds by spectra like UV, IR, NMR and mass spectral data. This book is advantageous for students of UG, PG and research students.

Pharmaceutical, Medicinal and Natural Product Chemistry Feb 18 2023 The modern approach to teaching and practice of organic chemistry represents the integration of traditional principles with molecular biology. The new emphasis firmly demands the study of organic chemistry teaching from its application to biochemical aspects, drug development and pharmaceutical aspects. The proposed organizational approach of the book will build from the principles of organic chemistry for example study of functional groups metabolic reactions, functionalization reactions, applications of spectroscopy, reactions and reagents and chemistry of natural products to their integration into pharmaceutical and medicinal chemistry. The proposed book is likely to be modern, readable and an interesting blend of organic and pharmaceutical chemistry, and would be useful for graduate students of both organic and pharmaceutical chemistry. The book has four principal aims: * Explains the principles of organic chemistry using biologically important molecules * Studies the chemistry of Natural products laying emphasis on general methods of structure elucidation, structure, synthesis and biogenesis from different classes of compounds * Useful for students of pharmacy covering the organic chemistry component * To face and excel in interview/selection committee in the subject of organic and pharmaceutical chemistry

Stereochemistry of Organic Compounds Dec 24 2020 Stereochemistry of Organic Compounds The first fully referenced, comprehensive book on this subject in more than thirty years, Stereochemistry of Organic Compounds contains up-to-date coverage and insightful exposition of all important new concepts, developments, and tools in the rapidly advancing field of stereochemistry, including: * Asymmetric and diastereoselective synthesis * Conformational analysis * Properties of enantiomers and racemates * Separation and analysis of enantiomers and diastereoisomers * Developments in spectroscopy (including NMR), chromatography, and molecular mechanics as applied to stereochemistry * Prostereoisomerism * Conceptual foundations of stereochemistry, including terminology and symmetry concepts * Chiroptical properties Written by the leading authorities in the field, the text includes

more than 4,000 references, 1,000 illustrations, and a glossary of stereochemical terms.

Spectrometric Identification of Organic Compounds Feb 06 2022 Originally published in 1962, this was the first book to explore the identification of organic compounds using spectroscopy. It provides a thorough introduction to the three areas of spectrometry most widely used in spectrometric identification: mass spectrometry, infrared spectrometry, and nuclear magnetic resonance spectrometry. A how-to, hands-on teaching manual with considerably expanded NMR coverage--NMR spectra can now be interpreted in exquisite detail. This book: Uses a problem-solving approach with extensive reference charts and tables. Offers an extensive set of real-data problems offers a challenge to the practicing chemist

Elementary Practical Organic Chemistry: Qualitative Organic Analysis Part 2 Sep 20 2020

Photochemistry And Pericyclic Reactions Jan 05 2022 This Book Is Especially Designed According To The Model Curriculum Of M.Sc. (Prev.) (Pericyclic Reactions) And M.Sc. (Final) (Photochemistry Compulsory Paper Viii) Suggested By The University Grants Commission, New Delhi. As Far As The Ugc Model Curriculum Is Concerned, Most Of The Indian Universities Have Already Adopted It And The Others Are In The Process Of Adopting The Proposed Curriculum. In The Present Academic Scenario, We Strongly Felt That A Comprehensive Book Covering Modern Topics Like Pericyclic Reactions And Photochemistry Of The Ugc Model Curriculum Was Urgently Needed. This Book Is A Fruitful Outcome Of Our Aforesaid Strong Feeling. Besides M.Sc. Students, This Book Will Also Be Very Useful To Those Students Who Are Preparing For The Net (Csir), Slet, Ias, Pcs And Other Competitive Examinations. The Subject Matter Has Been Presented In A Comprehensive, Lucid And Systematic Manner Which Is Easy To Understand Even By Self Study. The Authors Believe That Learning By Solving Problems Gives More Competence And Confidence In The Subject. Keeping This In View, Sufficiently Large Number Of Varied Problems For Self Assessment Are Given In Each Chapter. Hundred Plus Problems With Solutions In The Last Chapter Is An Important Feature Of This Book.

Stereochemistry and Mechanism Through Solved Problems Mar 07 2022

Stereochemistry of Organic Compounds May 09 2022 This text deals with the new concepts and terminology that have been introduced into the treatment of organic stereochemistry over the last decade. Organic reaction mechanisms, as they relate to stereochemistry, are included, and the pericyclic reaction using the frontier molecular orbital approach is explained. The text does not assume a strong grounding in organic chemistry and will therefore be useful to a broader spectrum of students - both graduate and undergraduate. The volume features numerous illustrations and programmed problems.

Sustainable Energy-Water-Environment Nexus in Deserts Jun 17 2020 This book addresses challenges and opportunities in the Energy-Water-Environment (EWE) nexus, with a particular focus on research and technology development requirements in harsh desert climates. Its chapters include selected contributions presented during the 1st international conference on sustainable Energy-Water-Environment nexus in desert climates (ICSEWEN-19) held at the Qatar Environment and Energy Research Institute (QEERI) in Doha, Qatar in December 2019. This volume is comprised of three main chapters, each describing important case studies and progress on water, energy and environmental questions. A fourth chapter on policies and community outreach on these three areas is also included. This compilation aims to bridge the gap between research and industry to address the socioeconomic impacts of the nexus imbalance as perceived by scientists, industrial partners, and policymakers. The content of this book is of particular importance to graduate students, researchers and decision makers interested in understanding water, energy and environmental challenges in arid areas. Researchers in environmental and civil engineering, chemistry, hydrology and environmental science can also find unique in-situ observations of the current nexus imbalance in deserts climate to validate their investigations. It is also an invaluable guide for industry professionals working in water, energy, environment and food sectors to understand the rapidly evolving landscape of the EWE nexus in arid areas. The analyses, observations and lessons-learned summarized herein are applicable to other arid areas outside North Africa and the Arabian Peninsula as well, such as central Australia, the southwest of the United States and deserts in central Asia.

MOLECULAR STRUCTURE AND SPECTROSCOPY Sep 01 2021 Designed to serve as a textbook for postgraduate students of physics and chemistry, this second edition improves the clarity of treatment, extends the range of topics, and includes more worked examples with a view to providing all the material needed for a course in molecular spectroscopy—from first principles to the very useful spectral data that comprise figures, charts and tables. To improve the conceptual appreciation and to help students develop more positive and realistic impressions of spectroscopy, there are two new chapters—one on the spectra of atoms and the other on laser spectroscopy. The chapter on the spectra of atoms is a detailed account of the basic principles involved in molecular spectroscopy. The chapter on laser spectroscopy covers some new experimental techniques for the investigation of the structure of atoms and molecules. Additional sections on interstellar molecules, inversion vibration of ammonia molecule, fibre-coupled Raman spectrometer, Raman microscope, supersonic beams and jet-cooling have also been included. Besides worked-out examples, an abundance of review questions, and end-of-chapter problems with answers are included to aid students in testing their knowledge of the material contained in each chapter. Solutions manual containing the complete worked-out solutions to chapter-end problems is available for instructors.

Problems and Solution in Proton NMR Spectroscopy Sep 13 2022 This book contains Basic question and exercises on Proton NMR which is very useful for both Graduate and Postgraduate student to learn how to interpret NMR spectra.

Spectroscopy of Organic Compounds Aug 24 2023 The Sixth Edition Of This Widely Used Text Includes New Examples / Spectra / Explanations / Expanded Coverage To Update The Topic Of Spectroscopy. The Artwork And Material In All Chapters Has Been Revised Extensively For Students Understanding. New To This Edition * New Discussion And New Ir, 1H Nmr, 13C Nmr And Ms Spectra. * More Important Basic Concepts Highlighted And Put In Boxes Throughout This Edition. * Chapters On 1H Nmr And 13C Nmr Rewritten And Enlarged. More On Cosy, Hetcor, Dept And Inadequate Spectra. * A Rational Approach For Solving The Structures Via Fragmentation Pathways In Ms. * Increased Power Of The Book By Providing Further Extensive Learning Material In This Revised Edition. * A Quick And An Easy Access To Topics In Ugc Model Curricula. With Its Comprehensive Coverage And Systematic Presentation The Book Would Serve As An Excellent Text For B.Sc. (Hons.) And M.Sc. Chemistry Students. It Provides Knowledge To Excel At Any Level, University Examination, Competitive Examinations E.G. Net And Before Interview Boards.

Organic Spectroscopy Jun 10 2022

NANOMATERIALS Effective Tool for Chemical Transformations May 29 2021

Textbook of Physical Chemistry Nov 22 2020

Organic Structure Determination Using 2-D NMR Spectroscopy Aug 20 2020 "The second edition of this book comes with a number of new figures, passages, and problems. Increasing the number of figures from 290 to 448 has necessarily added considerable length, weight, and, expense. It is my hope that the book has not lost any of its readability and accessibility. I firmly believe that most of the concepts needed to learn organic structure determination using nuclear magnetic resonance spectroscopy do not require an extensive mathematical background. It is my hope that the manner in which the material contained in this book is presented both reflects and validates this belief"--

Atomic And Molecular Spectroscopy Aug 12 2022 This Comprehensive Text Clearly Explains Quantum Theory, Wave Mechanics, Structure Of Atoms And Molecules And Spectroscopy. The Book Is In Three Parts, Namely, Wave Mechanics; Structure Of Atoms And Molecules; And Spectroscopy And Resonance Techniques. In A Simple And Systematic Manner, The Book Explains The Quantum Mechanical Approach To Structure, Along With The Basic Principles And Application Of Spectroscopic Methods For Molecular Structure Determination. The Book Also Incorporates The Electric And Magnetic Properties Of Matter, The Symmetry, Group Theory And Its Applications. Each Chapter Includes Many Solved Examples And Problems For A Better Understanding Of The Subject. With Its Exhaustive Coverage And Systematic Approach, This Is An Invaluable Text For B.Sc. (Hons.) And M.Sc. Chemistry Students.

Elementary Organic Spectroscopy Jan 17 2023 PRINCIPLES AND CHEMICAL APPLICATIONS FOR B.SC.(HONS) POST GRADUATE STUDENTS OF ALL INDIAN UNIVERSITIES AND COMPETITIVE EXAMINATIONS.

Organic Reactions And Their Mechanisms Nov 15 2022 This Revised Edition Includes Several New Topics To Make The Treatment More Comprehensive And Contemporary. The Exposition In Several Chapters Has Also Been Recast To Facilitate An Easier Understanding Of The Subject. * Molecular Orbital And Bonding Thoroughly Explained. * Resonance Structures And Allylic Systems Included. * Organic Acids And Bases Explained In Detail With Additional Examples. * Discussion Of Organic Reactions Considerably Expanded. * Various Additional Dimensions Of Photochemistry Highlighted. * A New Chapter On Special Topics Included. With Its Clear And Systematic Presentation, This Is An Essential Text For B.Sc. And M.Sc. Chemistry Students.

Practical Chemoinformatics Mar 27 2021 Chemoinformatics is equipped to impact our life in a big way mainly in the fields of chemical, medical and material sciences. This book is a product of several years of experience and passion for the subject written in a simple lucid style to attract the interest of the student community who wish to master chemoinformatics as a career. The topics chosen cover the entire spectrum of chemoinformatics activities (methods, data and tools). The algorithms, open source databases, tutorials supporting theory using standard datasets, guidelines, questions and do it yourself exercises will make it valuable to the academic research community. At the same time every chapter devotes a section on development of new software tools relevant for the growing pharmaceutical, fine chemicals and life sciences industry. The book is intended to assist beginners to hone their skills and also constitute an interesting reading for the experts.

Annual Reports on NMR Spectroscopy Nov 03 2021 Annual Reports on NMR Spectroscopy, Volume 91 provides a thorough and in-depth accounting of progress in nuclear magnetic resonance (NMR) spectroscopy and its many applications for chemists and physicists to study the structure and dynamics of molecules. This updated release in the series focuses on topics surrounding NMR relaxation in dendrimers, MRI studies of spatial distribution of charge carriers, and MRI studies of plastic crystals, amongst other timely topics. As no other technique has gained as much significance as NMR spectroscopy in recent years, this series, for both specialists and non-specialists, is an ideal resource for the latest information in the field. Serves as the premier resource for learning the new techniques and applications of NMR spectroscopy Provides a key reference for chemists and physicists using NMR spectroscopy to study the structure and dynamics of molecules Covers all aspects of molecular science, including MRI (Magnetic Resonance Imaging)

Modern Techniques of Spectroscopy Oct 14 2022 The book highlights recent developments in the field of spectroscopy by providing the readers with an updated and high-level of overview. The focus of this book is on the introduction to concepts of modern spectroscopic techniques, recent technological innovations in this field, and current examples of applications to molecules and materials relevant for academia and industry. The book will be beneficial to researchers from various branches of science and technology, and is intended to point them to modern techniques, which might be useful for their specific problems. Spectroscopic techniques, that are discussed include, UV-Visible absorption spectroscopy, XPS, Raman spectroscopy, SERS, TERS, CARS, IR absorption spectroscopy, SFG, LIBS, Quantum cascade laser (QCL) spectroscopy, fluorescence spectroscopy, ellipsometry, cavity-enhanced absorption spectroscopy, such as cavity ring-down spectroscopy (CRDS) and evanescent wave-CRDS both in gas and condensed phases, time-resolved spectroscopy etc. Applications introduced in the different chapters demonstrate the usefulness of the spectroscopic techniques for the characterization of fundamental properties of molecules, e.g. in connection with environmental impact, bio-activity, or usefulness for pharmaceutical drugs, and materials important e.g. for nano-science, nuclear chemistry, or bio-applications. The book presents how spectroscopic techniques can help to better understand substances, which have also great impact on questions of social and economic relevance (environment, alternative energy, etc.).

PROCEEDINGS OF NATIONAL SEMINAR ON MULTIDISCIPLINARY RESEARCH AND PRACTICE VOLUME 2 Oct 02 2021 This Conference Proceedings of the National Seminar entitled "Multidisciplinary Research and Practice" compiled by Dr. M. Kanika Priya records various research papers written by eminent scholars, professors and students. The articles range from English literature to Tamil literature, Arts, Humanities, Social Science, Education, Performing Arts, Information and Communication Technology, Engineering, Technology and Science, Medicine and Pharmaceutical Research, Economics, Sociology, Philosophy, Business, Management, Commerce and Accounting, Teacher Education, Higher Education, Primary and Secondary Education, Law, Science (Mathematics, Physics, Chemistry, Zoology, Botany), Agriculture and Computer Science. Researchers and faculty members from various disciplines have contributed their research papers. This book contains articles in Three languages, namely: English, Tamil and Hindi. As an editor Dr. M. Kanika Priya has taken up the tedious job of checking the validity and correctness of the research work in bringing out this conference proceedings in a beautiful manner. In its present shape and size, this anthology will, hopefully, find a place on the library shelves and enlighten the academics all round the world.

Organic Spectroscopy May 21 2023 Organic Spectroscopy presents the derivation of structural information from UV, IR, Raman, ¹H NMR, ¹³C NMR, Mass and ESR spectral data in such a way that stimulates interest of students and researchers alike. The application of spectroscopy for structure determination and analysis has seen phenomenal growth and is now an integral part of Organic Chemistry courses. This book provides: -A logical, comprehensive, lucid and accurate presentation, thus making it easy to understand even through self-study; -Theoretical aspects of spectral techniques necessary for the interpretation of spectra; -Salient features of instrumentation involved in spectroscopic methods; -Useful spectral data in the form of tables, charts and figures; -Examples of spectra to familiarize the reader; -Many varied problems to help build competence and confidence; -A separate chapter on 'spectroscopic solutions of structural problems' to emphasize the utility of spectroscopy. Organic Spectroscopy is an invaluable reference for the interpretation of various spectra. It can be used as a basic text for undergraduate and postgraduate students of spectroscopy as well as a practical resource by research chemists. The book will be of interest to chemists and analysts in academia and industry, especially those engaged in the synthesis and analysis of organic compounds including drugs, drug intermediates, agrochemicals, polymers and dyes.

Organic Reactions And Their Mechanisms Jun 22 2023

Luminescence and Its Applications 97 Jul 19 2020

Organic Spectroscopy Apr 20 2023 Though the format evolved in the first edition remains intact, relevant new additions have been inserted at appropriate places in various chapters of the book. Also included are a number of sample and study problems at the end of each chapter to illustrate the approach to problem solving that involve translations of sets of spectra into chemical structures. Written primarily to stimulate the interest of students in spectroscopy and make them aware of the latest developments in this field, this book begins with a general introduction to electromagnetic radiation and molecular spectroscopy. In addition to the usual topics on IR, UV, NMR and Mass spectrometry, it includes substantial material on the currently useful techniques such as FT-IR, FT-NMR ¹³C-NMR, 2D-NMR, GC/MS, FAB/MS, Tandem and Negative Ion Mass Spectrometry for students engaged in advanced studies. Finally it gives a detailed account on Optical Rotatory Dispersion (ORD) and Circular Dichroism (CD).

Comprehensive Practical Organic Chemistry Feb 23 2021 This manual for practical qualitative analysis covers the use of spectroscopic methods for identification of various functional groups, Comprehensive tables giving methods for the systematic identification of pure specimens, separation of mixtures and compounds, and procedures for preparation of derivatives are some of the salient features of the book.

Symmetry and Spectroscopy Jun 29 2021 Informal, effective undergraduate-level text introduces vibrational and electronic spectroscopy, presenting applications of group theory to the interpretation of UV, visible, and infrared spectra without assuming a high level of background knowledge. 200 problems with solutions. Numerous illustrations. "A uniform and consistent treatment of the subject matter." — Journal of Chemical Education.

Spectroscopy of Organic Compounds Mar 19 2023

Stereochemistry Dec 16 2022 Presents a new nomenclature and covers recently discovered systems. Includes a detailed study of conformational analysis of acyclic and alicyclic compounds, the relation between conformation and reactivity, and other aspects of stereochemistry, such as substitution, addition and elimination reactions. Includes numerous examples and illustrations from the Natural Product Area.

Introduction to Spectroscopy Jul 23 2023 Introduce your students to the latest advances in spectroscopy with the text that has set the standard in the field for more than three decades: INTRODUCTION TO SPECTROSCOPY, 5e, by Donald L. Pavia, Gary M. Lampman, George A. Kriz, and James R. Vyvyan. Whether you use the book as a primary text in an upper-level spectroscopy course or as a companion book with an organic chemistry text, your students will receive an unmatched, systematic introduction to spectra and basic theoretical concepts in spectroscopic methods. This acclaimed resource features up-to-date spectra; a modern presentation of one-dimensional nuclear magnetic resonance (NMR) spectroscopy; an introduction to biological molecules in mass spectrometry; and coverage of modern techniques alongside DEPT, COSY, and HECTOR. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Chiroptical Spectroscopy Jan 25 2021 This book details chiroptical spectroscopic methods: electronic circular dichroism (ECD), optical rotatory dispersion (ORD), vibrational circular dichroism (VCD), and vibrational Raman optical activity (VROA). For each technique, the text presents experimental methods for measurements and theoretical methods for analyzing the experimental data. It also includes a set of experiments that can be adopted for undergraduate teaching laboratories. Each chapter is written in an easy-to-follow format for novice readers, with necessary theoretical formalism in appendices for advanced readers.

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