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KEY=VOLUME - CHERRY ELAINA

PRINCIPLES AND APPLICATIONS OF NANOMEMS PHYSICS

Springer Science & Business Media Presents the first unified exposition of the physical principles at the heart of NanoMEMS-based devices and applications Provides newcomers with a much needed coherent scientific base for undertaking study and research in this field Takes great pains in rendering transparent advanced physical concepts and techniques, such as quantum information, second quantization, Luttinger liquids, bosonization, and superconductivity

WHAT IS THE ELECTRON?

Apeiron This book brings together papers by a number of authors. More than ten different models of the electron are presented and more than twenty models are discussed briefly. Thus, the book gives a complete picture of contemporary theoretical thinking (traditional and new) about the physics of the electron.

J.J. THOMPSON AND THE DISCOVERY OF THE ELECTRON

CRC Press This historical survey of the discovery of the electron has been published to coincide with the centenary of the discovery. The text maps the life and achievements of J.J. Thomson, with particular focus on his ideas and experiments leading to the discovery. It describes Thomson's early years and education. It then considers his career at Cambridge, first as a fellow of Trinity, later as the head of the Cavendish Laboratory and finally as Master of Trinity and national spokesman for science. The core of the book is concerned with the work undertaken at the Cavendish, culminating in the discovery of "corpuscles", later named "electrons".; In the final two chapters, the immediate aftermath and implications of the work are described. These include the creation of the subject of atomic physics as well as the broader long term developments which can be traced from vacuum valves and the transistor through to the microelectronics revolution.

THE AGE OF ALTERNATIVE LOGICS

ASSESSING PHILOSOPHY OF LOGIC AND MATHEMATICS TODAY

Springer Science & Business Media In the last century, developments in mathematics, philosophy, physics, computer science, economics and linguistics have proven important for the development of logic. There has been an influx of new ideas, concerns, and logical systems reflecting a great variety of reasoning tasks in the sciences. This book embodies the multi-dimensional interplay between logic and science, presenting contributions from the world's leading scholars on new trends and possible developments for research.

THE PRINCIPLES AND PRACTICE OF ELECTRON MICROSCOPY

Cambridge University Press An up-to-date edition of the indispensable guide to electron microscopy and analysis.

QUANTUM CONCEPTS IN PHYSICS

AN ALTERNATIVE APPROACH TO THE UNDERSTANDING OF QUANTUM MECHANICS

Cambridge University Press Written for advanced undergraduates, physicists, and historians and philosophers of physics, this book tells the story of the development of our understanding of quantum phenomena through the extraordinary years of the first three decades of the twentieth century. Rather than following the standard axiomatic approach, this book adopts a historical perspective, explaining clearly and authoritatively how pioneers such as Heisenberg, Schrodinger, Pauli and Dirac developed the fundamentals of quantum mechanics and merged them into a coherent theory, and why the mathematical infrastructure of quantum mechanics has to be as complex as it is. The author creates a compelling narrative, providing a remarkable example of how physics and mathematics work in practice. The book encourages an enhanced appreciation of the interaction between mathematics, theory and experiment, helping the reader gain a deeper understanding of the development and content of quantum mechanics than any other text at this level.

HOW EINSTEIN CREATED RELATIVITY OUT OF PHYSICS AND ASTRONOMY

Springer Science & Business Media This book tracks the history of the theory of relativity through Einstein's life, with in-depth studies of its background as built upon by ideas from earlier scientists. The focus points of Einstein's theory of relativity include its development throughout his life; the origins of his ideas and his indebtedness to the earlier works of Galileo, Newton, Faraday, Mach and others; the application of the theory to the birth of modern cosmology; and his quest for a unified field theory. Treading a fine line between the popular and technical (but not shying away from the occasional equation), this book explains the entire range of relativity and weaves an up-to-date biography of Einstein throughout. The result is an explanation of the world of relativity, based on an extensive journey into earlier physics and a simultaneous voyage into the mind of Einstein, written for the curious and intelligent reader.

STABLE ISOTOPE ECOLOGY

Springer Science & Business Media A solid introduction to stable isotopes that can also be used as an instructive review for more experienced researchers and professionals. The book approaches the use of isotopes from the perspective of ecological and biological research, but its concepts can be applied within other disciplines. A novel, step-by-step spreadsheet modeling approach is also presented for circulating tracers in any ecological system, including any favorite system an ecologist might dream up while sitting at a computer. The author's humorous and lighthearted style painlessly imparts the principles of isotope ecology. The online material contains color illustrations, spreadsheet models, technical appendices, and problems and answers.

THE KYBALION

A STUDY OF THE HERMETIC PHILOSOPHY OF ANCIENT EGYPT AND GREECE

Sunsight Press The Kybalion: A Study of the Hermetic Philosophy of Ancient Egypt and Greece is a book originally published in 1908 by New Thought author William Walker Atkinson under the pseudonym "The Three Initiates". This book is not exactly The Kybalion itself, it is more of a critical interpretation by Atkinson on hermetic philosophy. As such, it should be read with this in mind that it is not an authoritative hermetic text, but one only dedicated to Hermes Trismegistus. The Kybalion presents seven universal principles it proposes to be the Seven Hermetic Principles: Mentalism, Correspondence, Vibration, Polarity, Rhythm, Cause and Effect, and Gender. These principles are essentially explications of cycles, and before these principles is the notion of the primacy of mind as the cause of All (philosophical mentalism). This idea of mentalism is inspired by what is written about the Mind in The Hermetica. Coinciding with Spiritualism, New Thought, and Theosophy, the book became very popular in New Age movements, particularly with its notion of spiritual and mental alchemy. The Kybalion is a text which must be read with this in mind, while it is an interpretation of hermetic philosophy, it is in part still a relic of its time. Its influence cannot be understated, and the need to read it critically cannot be overstated.

MOLECULAR DEVICES AND MACHINES

A JOURNEY INTO THE NANOWORLD

John Wiley & Sons The miniaturization of bulky devices and machines is a process that confronts us on a daily basis. However, nanoscale machines with varied and novel characteristics may also result from the enlargement of extremely small building blocks, namely individual molecules. This bottom-up approach to nanotechnology is already being pursued in information technology, with many other branches about to follow. - Written by a team of experienced authors headed by Vincenzo Balzani, one of the pioneers in the development of molecular machines - Covers such diverse aspects as sensors, memory components, solar energy conversion, biomolecules as molecular machines, and much more - Presented in a lucid style and didactically structured, with both the expert and the newcomer in mind - Includes a glossary of terms and numerous references to the recent literature Be among the first to explore the fascinating possibilities of this future-oriented technology! A must-have for every chemist and materials scientist with an interest in nanotechnology.

MODERN PHYSICS

Worth Pub For the intermediate-level course, the Fifth Edition of this widely used text takes modern physics textbooks to a higher level. With a flexible approach to accommodate the various ways of teaching the course (both one- and two-term tracks are easily covered), the authors recognize the audience and its need for updated coverage, mathematical rigor, and features to build and support student understanding. Continued are the superb explanatory style, the up-to-date topical coverage, and the Web enhancements that gained earlier editions worldwide recognition. Enhancements include a streamlined approach to nuclear physics, thoroughly revised and updated coverage on particle physics and astrophysics, and a review of the essential Classical Concepts important to students studying Modern Physics.

FUNDAMENTALS OF LIGHT MICROSCOPY AND ELECTRONIC IMAGING

John Wiley & Sons Fundamentals of Light Microscopy and Electronic Imaging, Second Edition provides a coherent introduction to the principles and applications of the integrated optical microscope system, covering both theoretical and practical considerations. It expands and updates discussions of multi-spectral imaging, intensified digital cameras, signal colocalization, and uses of objectives, and offers guidance in the selection of microscopes and electronic cameras, as well as appropriate auxiliary optical systems and fluorescent tags. The book is divided into three sections covering optical principles in diffraction and image formation, basic modes of light microscopy, and components of modern electronic imaging systems and image processing operations. Each chapter introduces relevant theory, followed by descriptions of instrument alignment and image interpretation. This revision includes new chapters on live cell imaging, measurement of protein dynamics, deconvolution microscopy, and interference microscopy. PowerPoint slides of the figures as well as other supplementary materials for instructors are available at a companion website: www.wiley.com/go/murphy/lightmicroscopy

HEAT CAPACITY AND THERMAL EXPANSION AT LOW TEMPERATURES

Springer Science & Business Media The birth of this monograph is partly due to the persistent efforts of the General Editor, Dr. Klaus Timmerhaus, to persuade the authors that they encapsulate their forty or fifty years of struggle with the thermal properties of materials into a book before they either expired or became totally senile. We recognize his wisdom in wanting a monograph which includes the closely linked properties of heat capacity and thermal expansion, to which we have added a little 'cement' in the form of elastic moduli. There seems to be a dearth of practitioners in these areas, particularly among physics postgraduate students, sometimes temporarily alleviated when a new generation of exciting materials are found, be they heavy fermion compounds, high temperature superconductors, or fullerenes. And yet the needs of the space industry, telecommunications, energy conservation, astronomy, medical imaging, etc. , place demands for more data and understanding of these properties for all classes of materials - metals, polymers, glasses, ceramics, and mixtures thereof. There have been many useful books, including Specific Heats at Low Temperatures by E. S. Raja Gopal (1966) in this Plenum Cryogenic Monograph Series, but few if any that covered these related topics in one book in a fashion designed to help the cryogenic engineer and cryophysicist. We hope that the introductory chapter will widen the horizons of many without a solid state background but with a general interest in physics and materials.

COLLECTED WORKS OF MAHATMA GANDHI

THE CRAFT OF SCIENTIFIC PRESENTATIONS

CRITICAL STEPS TO SUCCEED AND CRITICAL ERRORS TO AVOID

Springer Science & Business Media This timely and hugely practical work provides a score of examples from contemporary and historical scientific presentations to show clearly what makes an oral presentation effective. It considers presentations made to persuade an audience to adopt some course of action (such as funding a proposal) as well as presentations made to communicate information, and it considers these from four perspectives: speech, structure, visual aids, and delivery. It also discusses computer-based projections and slide shows as well as overhead projections. In particular, it looks at ways of organizing graphics and text in projected images and of using layout and design to present the information efficiently and effectively.

A PLANET OF VIRUSES

SECOND EDITION

University of Chicago Press For years, scientists have been warning us that a pandemic was all but inevitable. Now it's here, and the rest of us have a lot to learn. Fortunately, science writer Carl Zimmer is here to guide us. In this compact volume, he tells the story of how the smallest living things known to science can bring an entire planet of people to a halt--and what we can learn from how we've defeated them in the past. Planet of Viruses covers such threats as Ebola, MERS, and chikungunya virus; tells about recent scientific discoveries, such as a hundred-million-year-old virus that infected the common ancestor of armadillos, elephants, and humans; and shares new findings that show why climate change may lead to even deadlier outbreaks. Zimmer's lucid explanations and fascinating stories demonstrate how deeply humans and viruses are intertwined. Viruses helped give rise to the first life-forms, are responsible for many of our most devastating diseases, and will continue to control our fate for centuries. Thoroughly readable, and, for all its honesty about the threats, as reassuring as it is frightening, A Planet of Viruses is a fascinating tour of a world we all need to better understand.

PATHWAYS TO MODERN CHEMICAL PHYSICS

Springer Science & Business Media In this historical volume Salvatore Califano traces the developments of ideas and theories in physical and theoretical chemistry throughout the 20th century. This seldom-told narrative provides details of topics from thermodynamics to atomic structure, radioactivity and quantum chemistry. Califano's expertise as a physical chemist allows him to judge the historical developments from the point of view of modern chemistry. This detailed and unique historical narrative is fascinating for chemists working in the fields of physical chemistry and is also a useful resource for science historians who will enjoy access to material not previously dealt with in a coherent way.

THE CORPUSCULAR THEORY OF MATTER

Work by the eminent physicist Thomson, discoverer of the electron, consisting of seven chapters which deal respectively with the origin and properties of corpuscles (subatomic particles), two different corpuscular theories of metallic conduction, and the number and arrangement of corpuscles in the atom.

WAVES AND PARTICLES IN LIGHT AND MATTER

Springer Science & Business Media From September 24 through 30, 1992 the Workshop on "Waves and Particles in Light and Matter" was held in the Italian city of Trani in celebration of the centenary of Louis de Broglie's birth. As is well known, the relationship between quantum theory and objective reality was one of the main threads running through the researches of this French physicist. It was therefore in a fitting tribute to him on his 90th birthday that ten years ago an international conference on the same subject was convened in Perugia. On that occasion, physicists from all over the world interested in the problematics of wave-particle duality engaged in thoughtful debates (the proceedings of which were subsequently published) on recent theoretical and experimental developments in our understanding of the foundations of quantum mechanics. This time around, about 120 scientists, coming from 5 continents, in the warm and pleasant atmosphere of Trani's Colonna Conference Center focussed their discussions on recent results concerned with the EPR paradox, matter-interferometry, reality of de Broglie's waves, photon detection, macroscopic quantum coherence, alternative theories to usual quantum mechanics, special relativity, state reduction, and other related topics. The workshop was organized in plenary sessions, round tables, and poster sessions, and the present volume collects most-but not all-of the presented papers. A number of acknowledgements are due. We thank, first of all, the contributors, without whose constant dedication this volume could not have been published.

THE MASTER KEY SYSTEM

The Floating Press The Master Key System is a personal development book by Charles F. Haanel. Originally a 24 week correspondence course released in 1912, it was published in this book form in 1917. Along with "The Science of Getting Rich", by Wallace D. Wattles, the Master Key System was a primary inspiration for Rhonda Byrne's book and film "The Secret". Charles F. Haanel was an American author, millionaire, entrepreneur, and businessman who belonged to the American Scientific League and several Masonic societies.

ENRICO FERMI

HIS WORK AND LEGACY

Springer Science & Business Media Enrico Fermi's scientific work, noted for its originality and breadth, has had lasting consequences throughout modern science. Written by close colleagues as well as scientists whose fields were profoundly influenced by Fermi, the papers collected here constitute a tribute to him and his scientific legacy. They were commissioned on the occasion of his 100th birthday by the Italian Physical Society and confirm that Fermi was a rare combination of theorist, experimentalist, teacher, and inspiring colleague. The book is organized into three parts: three biographical overviews by close colleagues, replete with personal insights; fourteen analyses of Fermi's impact by specialists in their fields, spanning physics, chemistry, mathematics, and engineering; and a year-by-year chronology of Fermi's scientific endeavors. Written for a general scientific audience, Enrico Fermi: His Work and Legacy offers a highly readable source on the life of one of the 20th century's most distinguished scientists and a must for everybody interested in the history of modern science.

CONDUCTION OF ELECTRICITY THROUGH GASES

BIOGRAPHICAL MEMOIRS

VOLUME 82

National Academies Press Biographic Memoirs Volume 82 contains the biographies of deceased members of the National Academy of Sciences and bibliographies of their published works. Each biographical essay was written by a member of the Academy familiar with the professional career of the deceased. For historical and bibliographical purposes, these volumes are worth returning to time and again.

RAYS OF POSITIVE ELECTRICITY AND THEIR APPLICATION TO CHEMICAL ANALYSES

NOTES ON RECENT RESEARCHES IN ELECTRICITY AND MAGNETISM

INTENDED AS A SEQUEL TO PROFESSOR CLERK-MAXWELL'S TREATISE ON ELECTRICITY AND MAGNETISM

A central work in the history of physics, documenting experiments which led to the discovery of the electron.

ELECTRICITY AND MATTER

MODELS OF THE ATOMIC NUCLEUS

UNIFICATION THROUGH A LATTICE OF NUCLEONS

Springer Very intuitive and physically precise visualization software for nuclear models Database of all nuclei and isotopes included All nuclear parameters are adjustable in a wide range Comprehensive and introductory book on nuclear models Platform invariant software (Windows, Unix, Mac)

FAMOUS SPEECHES BY MAHATMA GANDHI

GANDHI LITERATURE

Createspace Independent Publishing Platform "My Life is My Message" "You may be sure I am living now just the way I wish to live. What I might have done at the beginning, had I more light, I am doing now in the evening of my life, at the end of my career, building from the bottom up. study my way of living here, study my surroundings, if you wish to know what I am. Village improvement is the only foundation on which conditions in India can be permanently ameliorated." M. K. Gandhi

A MATHEMATICAL INTRODUCTION TO STRING THEORY

VARIATIONAL PROBLEMS, GEOMETRIC AND PROBABILISTIC METHODS

Cambridge University Press This book deals with the mathematical aspects of string theory.

ANOMALOUS TRANSPORT: APPLICATIONS, MATHEMATICAL PERSPECTIVES, AND BIG DATA

Frontiers Media SA

THE DISCOVERY OF SUBATOMIC PARTICLES REVISED EDITION

Cambridge University Press An account of twentieth century advances in physics introduces the fundamentals of classic physics that played crucial roles in key discoveries including those of the electron, proton, and neutron, in a volume that covers the link between subatomic particle discoveries and contemporary research. (Science & Mathematics)

ELECTRICAL PAPERS

THE UNIVERSAL MACHINE

FROM THE DAWN OF COMPUTING TO DIGITAL CONSCIOUSNESS

Springer Science & Business Media The computer unlike other inventions is universal; you can use a computer for many tasks: writing, composing music, designing buildings, creating movies, inhabiting virtual worlds, communicating... This popular science history isn't just about technology but introduces the pioneers: Babbage, Turing, Apple's Wozniak and Jobs, Bill Gates, Tim Berners-Lee, Mark Zuckerberg. This story is about people and the changes computers have caused. In the future ubiquitous computing, AI, quantum and molecular computing could even make us immortal. The computer has been a radical invention. In less than a single human life computers are transforming economies and societies like no human invention before.

ELECTRICAL PROPERTIES OF MATERIALS

OUP Oxford An informal and highly accessible writing style, a simple treatment of mathematics, and clear guide to applications, have made this book a classic text in electrical and electronic engineering. Students will find it both readable and comprehensive. The fundamental ideas relevant to the understanding of the electrical properties of materials are emphasized; in addition, topics are selected in order to explain the operation of devices having applications (or possible future applications) in engineering. The mathematics, kept deliberately to a minimum, is well within the grasp of a second-year student. This is achieved by choosing the simplest model that can display the essential properties of a phenomenon, and then examining the difference between the ideal and the actual behaviour. The whole text is designed as an undergraduate course. However most individual sections are self contained and can be used as background reading in graduate courses, and for interested persons who want to explore advances in microelectronics, lasers, nanotechnology and several other topics that impinge on modern life.

RADIATION BIOPHYSICS

Academic Press This newly revised and updated edition of Radiation Biophysics provides an in-depth description of the physics and chemistry of radiation and its effects on biological systems. Coverage begins with fundamental concepts of the physics of radiation and radioactivity, then progresses through the chemistry and biology of the interaction of radiation with living systems. The Second Edition of this highly praised text includes major revisions which reflect the rapid advances in the field. New material covers recent developments in the fields of carcinogenesis, DNA repair, molecular genetics, and the molecular biology of oncogenes and tumor suppressor genes. The book also includes extensive discussion of the practical impact of radiation on everyday life. Covers the fundamentals of radiation physics in a manner that is understandable to students and professionals with a limited physics background Includes problem sets and exercises to aid both teachers and students Discusses radioactivity, internally deposited radionuclides, and dosimetry Analyzes the risks for occupational and non-occupational workers exposed to radiation sources

TIME'S ARROW AND ARCHIMEDES' POINT

NEW DIRECTIONS FOR THE PHYSICS OF TIME

Oxford University Press Why is the future so different from the past? Why does the past affect the future and not the other way around? What does quantum mechanics really tell us about the world? In this important and accessible book, Huw Price throws fascinating new light on some of the great mysteries of modern physics, and connects them in a wholly original way. Price begins with the mystery of the arrow of time. Why, for example, does disorder always increase, as required by the second law of thermodynamics? Price shows that, for over a century, most physicists have thought about these problems the wrong way. Misled by the human perspective from within time, which distorts and exaggerates the differences between past and future, they have fallen victim to what Price calls the "double standard fallacy": proposed explanations of the difference between the past and the future turn out to rely on a difference which has been slipped in at the beginning, when the physicists themselves treat the past and future in different ways. To avoid this fallacy, Price argues, we need to overcome our natural tendency to think about the past and the future differently. We need to imagine a point outside time -- an Archimedean "view from nowhen" -- from which to observe time in an unbiased way. Offering a lively criticism of many major modern physicists, including Richard Feynman and Stephen Hawking, Price shows that this fallacy remains common in physics today -- for example, when contemporary cosmologists theorize about the eventual fate of the universe. The "big bang" theory normally assumes that the beginning and end of the universe will be very different. But if we are to avoid the double standard fallacy, we need to consider time symmetrically, and take seriously the possibility that the arrow of time may reverse when the universe recollapses into a "big crunch." Price then turns to the greatest mystery of modern physics, the meaning of quantum theory. He argues that in missing the Archimedean viewpoint, modern physics has missed a radical and attractive solution to many of the apparent paradoxes of quantum physics. Many consequences of quantum theory appear counterintuitive, such as Schrodinger's Cat, whose condition seems undetermined until observed, and Bell's Theorem, which suggests a spooky "nonlocality," where events happening simultaneously in different places seem to affect each other directly. Price shows that these paradoxes can be avoided by allowing that at the quantum level the future does, indeed, affect the past. This demystifies nonlocality, and supports Einstein's unpopular intuition that quantum theory describes an objective world, existing independently of human observers: the Cat is alive or dead, even when nobody looks. So interpreted, Price argues, quantum mechanics is simply the kind of theory we ought to have expected in microphysics -- from the symmetric standpoint. Time's Arrow and Archimedes' Point presents an innovative and controversial view of time and contemporary physics. In this exciting book, Price urges physicists, philosophers, and anyone who has ever pondered the mysteries of time to look at the world from the fresh perspective of Archimedes' Point and gain a deeper understanding of ourselves, the universe around us, and our own place in time.

ELECTRON OPTICS AND ELECTRON MICROSCOPY

Good, No Highlights, No Markup, all pages are intact, Slight Shelfwear, may have the corners slightly dented, may have slight color changes/slightly damaged spine.

METAL COMPLEXES CONTAINING BORON BASED LIGANDS

MDPI Boron-based compounds have been utilized as ligands within transition metal complexes for many decades. The diversity of such compounds in terms of varying functional groups is truly exceptional. Boron compounds are of high interest due to the great potential to modify the substituents around the boron center and to produce a broad range of structural motifs. The many different ways these compounds can coordinate or interact with transition metal centers is astonishing. Examples of transition metal complexes containing boron-based ligands include scorpionates, cluster-type borane- and carboranes, borates, and phosphine-stabilized borylene ligands. This Special Issue brings together a collection of articles focusing on recent developments in the aforementioned boron-based ligands. The articles reported in this book will provide the reader with an overview of the types of boron-based ligands which are currently being researched in groups around the world.

AGAINST METHOD

Verso Modern philosophy of science has paid great attention to the understanding of scientific 'practice', in contrast to concentration on scientific 'method'. Paul Feyerabend's acclaimed work, which has contributed greatly to this new emphasis, shows the deficiencies of some widespread ideas about the nature of knowledge. He argues that the only feasible explanations of scientific successes are historical explanations, and that anarchism must now replace rationalism in the theory of knowledge. The third edition of this classic text contains a new preface and additional reflections at various points

in which the author takes account both of recent debates on science and on the impact of scientific products and practices on the human community. While disavowing populism or relativism, Feyerabend continues to insist that the voice of the inexpert must be heard. Thus many environmental perils were first identified by non-experts against prevailing assumptions in the scientific community. Feyerabend's challenging reassessment of scientific claims and understandings are as pungent and timely as ever.

THE FUNGAL SPORE AND DISEASE INITIATION IN PLANTS AND ANIMALS

Springer Science & Business Media This treatise is focused on early aspects of fungal pathogenesis in plant and animal hosts. Our aim in choosing the topics and contributors was to demonstrate common approaches to studies of fungal-plant and fungal-animal interactions, particularly at the biochemical and molecular levels. For example, the initial events of adhesion of fungal spores to the exposed surface tissues of the host are essential for subsequent invasion of the plant or animal and establishment of pathogenesis. A point of consensus among investigators who have directed their attention to such events in plants, insects, and vertebrates is that spore adhesion to the host cuticle or epithelium is more than a simple binding event. It is a complex and potentially pivotal process in fungal-plant interactions which "may involve the secretion of fluids that prepare the infection court for the development of morphological stages of the germling" and subsequent invasion of the host (Nicholson and Epstein, Chapter 1). The attachment of the fungal propagule to the arthropod cuticle is also "mediated by the chemical components present on the outer layer of the spore wall and the epicuticle . . . Initial attachment may be reinforced further by either the active secretion of adhesive materials or the modification of spore wall material located at the [fungal spore arthropod] cuticle interface (Boucias and Pendland, Chapter 5).