

Cours De Physique De L Cole Polytechnique Premier Suppl Ment Chaleur Acoustique Optique Classic Reprint

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Cours de physique de l'école polytechnique

Lazare Carnot was the unique example in the history of science of someone who inadvertently owed the scientific recognition he eventually achieved to earlier political prominence. He and his son Sadi produced work that derived from their training as engineering and went largely unnoticed by physicists for a generation or more, even though their respective work introduced concepts that proved fundamental when taken up later by other hands. There was, moreover, a filial as well as substantive relation between the work of father and son. Sadi applied to the functioning of heat engines the analysis that his father had developed in his study of the operation of ordinary machines. Specifically, Sadi's idea of a reversible process originated in the use his father made of geometric motions in the analysis of machines in general. This unique book shows how the two Carnots influenced each other in their work in the fields of mechanics and thermodynamics and how future generations of scientists have further benefited from their work.

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This book explores the interactions between science and music in the late nineteenth- and early twentieth century. It examines and evaluates the work of Hermann von Helmholtz, Max Planck, Shohé Tanaka, and Adriaan Fokker, leading physicists and physiologists who were committed to understanding crucial aesthetic components of the art of music, including the standardization of pitch and the implementation of various types of intonations. With a mixture of physics, physiology, and aesthetics, author Erwin Hiebert addresses throughout the book how just intonation came to intersect with the history of keyboard instruments and exert an influence on the development of Western music. He begins with the work of Hermann von Helmholtz, a leading nineteenth-century physicist and physiologist who not only made important contributions in vision, optics, electrodynamics and thermodynamics, but also helped advanced the field of music theory as well. The author traces the Helmholtzian trends of thought that become inherently more complex by reaching beyond the sciences to perform a bridge with aesthetics and the diverse ways in which the human mind interprets or is taught, in different cultures, to interpret and understand music. Next, the author explores the works of other key physicists and physiologists who were influenced by Helmholtz and added to his legacy. He

examines Japanese music theory student Shohé Tanaka, who sought to design a harmonium that was not based on equal temperament but rather on just intonation. Dutch physicist Adriaan Daniel Fokker, who arranged for organs to be built based on 31-tones per octave, orchestrated concerts for these new instruments and even attempted to compose microtonal music, or music whose tonality is based on intervals smaller than the typical twelve semitones of Western music.

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The book intends to give a state-of-the-art overview of flexoelectricity, a linear physical coupling between mechanical (orientational) deformations and electric polarization, which is specific to systems with orientational order, such as liquid crystals. Chapters written by experts in the field shed light on theoretical as well as experimental aspects of research carried out since the discovery of flexoelectricity. Besides a common macroscopic (continuum) description the microscopic theory of flexoelectricity is also addressed. Electro-optic effects due to or modified by flexoelectricity as well as various (direct and indirect) measurement methods are discussed. Special emphasis is given to the role of flexoelectricity in pattern-forming instabilities. While the main focus of the book lies in flexoelectricity in nematic liquid crystals, peculiarities of other mesophases (bent-core systems, cholesterics, and smectics) are also reviewed. Flexoelectricity has relevance to biological (living) systems and can also offer possibilities for technical applications. The basics of these two interdisciplinary fields are also summarized.

Cours de physique de l'école polytechnique

"Counter Responsibility for planning language teaching programs now carries with it a strong element of accountability. Evaluation of the whole process of course design, development, and implementation is therefore a necessary area of activity for course designers, language planners, and researchers. This book brings together accounts of recent work in this increasingly important field and will be a valuable resource both for those already engaged in evaluation and for those in training. Part One presents a review of the literature, covering past developments in the wider field of educational evaluation, as well as specifically in second language education. Part Two contains a series of eight original case-studies, written by scholars involved in evaluations in widely divergent settings. The focus in each case is on how the evaluator addresses the difficulties central to each study, and the findings are also included. The final Part Three provides practical guidance for evaluators, offering suggestions about how to set up and carry out evaluations in any given setting."--Publisher's website.

Cours de physique de l'Ecole polytechnique

Using plant material as raw materials for construction is a relatively recent and original topic of research. This book presents an overview of the current knowledge on the material properties and environmental impact of construction materials made from plant particles, which are renewable, recyclable and easily available. It focuses on particles and as well on fibers issued from hemp plant, as well as discussing hemp concretes. The book begins by setting the environmental, economic and social context of agro-concretes, before discussing the nature of plant-based aggregates and binders. The formulation, implementation and mechanical behavior of such building materials are the subject of the following chapters. The focus is then put upon the hygrothermal behavior and acoustical properties of hempcrete, followed by the use of plant-based concretes in structures. The book concludes with the study of life-cycle analysis (LCA) of the environmental characteristics of a banked hempcrete wall on a wooden skeleton. Contents 1. Environmental, Economic and Social Context of Agro-Concretes, Vincent Nozahic and Sofiane Amziane. 2. Characterization of Plant-Based Aggregates. Vincent Picandet. 3. Binders, Gilles Escadeillas, Camille Magniont, Sofiane Amziane and Vincent Nozahic. 4. Formulation and Implementation, Christophe Lanos, Florence Collet, Gérard Lenain and Yves Hustache. 5. Mechanical Behavior, Laurent Arnaud, Sofiane Amziane, Vincent Nozahic and Etienne Gourlay. 6. Hygrothermal Behavior of Hempcrete, Laurent Arnaud, Driss Samri and Étienne Gourlay. 7. Acoustical Properties of Hemp Concretes, Philippe Glé, Emmanuel Gourdon and Laurent Arnaud. 8. Plant-Based Concretes in Structures: Structural Aspect – Addition of a Wooden Support to Absorb the Strain, Philippe Munoz and Didier Pipet. 9. Examination of the Environmental Characteristics of a Banked Hempcrete Wall on a Wooden Skeleton, by Lifecycle Analysis: Feedback on the LCA Experiment from 2005, Marie-Pierre Boutin and Cyril Flamin. About the Authors Sofiane Amziane is Professor and head of the Civil Engineering department at POLYTECH Clermont-Ferrand in France. He is also in charge of the research program dealing with bio-based building materials at Blaise Pascal University (Institut Pascal, Clermont Ferrand, France). He is the secretary of the RILEM Technical

Committee 236-BBM dealing with bio-based building materials and the author or co-author of over one hundred papers in scientific journals such as *Cement and Concrete Research*, *Composite Structures* or *Construction Building Materials* as well as international conferences. Laurent Arnaud is a Bridges, Waters and Forestry Engineer (Ingénieur des Ponts, Eaux et Forêts) and researcher at Joseph Fourier University in Grenoble, France. He is also Professor at ENTPE (Ecole Nationale des Travaux Publics de l'Etat). Trained in the field of mechanical engineering, his research has been directed toward the characterization and development of new materials for civil engineering and construction. He is head of the international committee at RILEM – BBM, as well as the author of more than one hundred publications, and holder of an international invention patent.

Lazare and Sadi Carnot

Volume II: 1862-1873 contains texts which illuminate Maxwell's scientific maturity. In this period he wrote the classic works on field physics and statistical molecular theory which established his unique status in the history of science. His important correspondence with Thomson and Tait provides remarkable insight into the major themes of his physics.

Melanges Mathematiques Et Astronomiques

This volume provides the Arabic, Latin and English text of the major work on historical astrology of the Middle Ages. The text is attributed either to Abk Ma'shar (787-886) or to his pupil Ibn al-B z y r, and was translated into Latin in the mid-twelfth century. In eight books (parts) it provides the scientific basis for predictions concerning kings, prophets, dynasties, religions, wars, epidemics etc., by means of conjunctions of planets, comets and other astronomical factors. It is cited frequently by both Arabic and Latin authors. These editions will provide, for the first time, the context of these citations. Aside from its intrinsic interest for cultural history and the history of science, this work provides several details. The print edition is available as a set of two volumes (9789004117334).

Routledge Dictionnaire Technique Anglais

This unprecedented book introduces the latest use of technology to support second language acquisition, combining the application of technology with language acquisition theory and practice in the modern classroom. This book is coherently organized around the teaching concepts and approaches such as communicative, content-based, skills-based and inquiry base teaching. The authors provide an extensive, up-to-date coverage of issues such as the use of technology for communicative language teaching, using technology to teach oral communication skills and reading and writing. For anyone interested in learning ways to integrate technology in the teaching of English Language.

Astronomical Notices

This book examines how the computer, as we currently know it, will be replaced by a new generation of technologies, moving computing off the desktop and ultimately integrating it with real world objects and everyday environments. It provides a unique combination of concepts, methods and prototypes of ubiquitous and pervasive computing reflecting the current interest in smart environments and ambient intelligence.

Bibliography of Publications

Concise work presents topological concepts in clear, elementary fashion, from basics of set-theoretic topology, through topological theorems and questions based on concept of the algebraic complex, to the concept of Betti groups. Includes 25 figures.

The Helmholtz Legacy in Physiological Acoustics

Part I covers the history, principles, and methods of patient-based neuroscience: lesion method, imaging, computational modeling, and anatomy. Part II covers perception and vision: sensory agnosias, disorders of body perception, attention and neglect, disorders of perception and awareness, and misidentification syndromes. Part III covers language: aphasia, language disorders in children, specific language impairments, developmental dyslexia, acquired reading disorders, and aphasia. Part IV covers memory: amnesia and semantic memory impairments. Part V covers higher cognitive functions: frontal lobes, callosal disconnection (split brain), skilled movement disorders, acalculia,

dementia, delirium, and degenerative conditions including Alzheimer's disease, Parkinson's disease, and Huntington's disease.

A Centenary of Science in Manchester (in a Series of Notes)

This book is made up of two parts, the first devoted to general, historical and cultural background, and the second to the development of each subdiscipline that together comprise Chinese mathematics. The book is uniquely accessible, both as a topical reference work, and also as an overview that can be read and reread at many levels of sophistication by both sinologists and mathematicians alike.

Shipbuilders of the Thames and Medway

The exhilarating history of how plants got their names, previously published as *The Naming of Names*, from the author of the worldwide bestseller *The Tulip*

The Simplicity of the Creation

In 1884 Sir William Thomson (later Lord Kelvin) delivered a significant series of lectures on physics at the Johns Hopkins University in Baltimore. This book presents the twenty lectures in their original form for the first time.

A History of the Royal Society, with Memoris of the Presidents

Book Excerpt: ...gement to the very valuable Journals of Poggendorff and Schweigger. Less exclusively national than their Gallic compeer, they present a picture of the actual progress of physical science throughout Europe. Indeed, we have been often astonished to see with what celerity every thing, even moderately valuable in the scientific publications of this country, finds its way into their pages. This ought to encourage our men of science. They have a larger audience, and a wider sympathy than they are perhaps aware of; and however disheartening the general diffusion of smatterings of a number of subjects, and the almost equally general indifference to profound knowledge in any, among their own countrymen, may be, they may rest assured that not a fact they may discover, nor a good experiment they may make, but is instantly repeated, verified, and commented upon, in Germany, and, we may add too, in Italy. We wish the obligation were mutual. Here, whole branches of continental discovery are unstudied, and indeed almos...

Flexoelectricity in Liquid Crystals

James Clerk Maxwell published the *Treatise on Electricity and Magnetism* in 1873. At his death, six years later, his theory of the electromagnetic field was neither well understood nor widely accepted. By the mid-1890s, however, it was regarded as one of the most fundamental and fruitful of all physical theories. Bruce J. Hunt examines the joint work of a group of young British physicists—G. F. FitzGerald, Oliver Heaviside, and Oliver Lodge—along with a key German contributor, Heinrich Hertz. It was these "Maxwellians" who transformed the fertile but half-finished ideas presented in the *Treatise* into the concise and powerful system now known as "Maxwell's theory."

Evaluating Second Language Education

Reminiscences of colleagues.

Bio-aggregate-based Building Materials

A guide to becoming financially independent with tips on saving and investing.

Autobiography of Sir George Biddell Airy

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The Scientific Letters and Papers of James Clerk Maxwell: Volume 2, 1862-1873

In 1865 James Clerk Maxwell (1831 - 1879) published this work, "A Dynamical Theory of the Electro-magnetic Field" demonstrating that electric and magnetic fields travel through space as waves moving at the speed of light. He proposed that light is an undulation in the same medium that is the cause of electric and magnetic phenomena. The unification of light and electrical phenomena led him to

predict the existence of radio waves. Maxwell is also regarded as the founding scientist of the modern field of electrical engineering. His discoveries helped usher in the era of modern physics, laying the foundation for such fields as special relativity and quantum mechanics. Many physicists regard Maxwell as the 19th-century scientist having the greatest influence on 20th-century physics. His contributions to physics are considered by many to be of the same magnitude as the ones of Isaac Newton and Albert Einstein. In this original treatise Maxwell introduces the best of his mind in seven parts, to include: Part i. introductory. Part ii. on electromagnetic induction. Part iii. general equations of the electromagnetic field. Part iv. mechanical actions in the field. Part v. theory of condensers. Part vi. electromagnetic theory of light. Part vii. calculation of the coefficients of electromagnetic induction

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Technology and Teaching English Language Learners