
Physical Sciences

February March

2016 P1 Grade12

Silooo

Emergent Transport Properties of Magnetic

Topological Insulator Heterostructures

Oxford Weather and Climate since 1767

How City Agencies Innovate

Rising

Failure Modes, Effects and Causes of

Microbiologically Influenced Corrosion

Lethality at Risk: Unclassified Summary

Hearing Voices: The History of Psychiatry in

Ireland is a monumental work by one of Ireland's

leading Clinical Psychiatrists, encompassing

every psychiatric development from the Middle

Ages to the present day and examining all of its

far-reaching social and political effects.

The Formative Years of Relativity

Religion and Higher Education in Europe and

North America

Shaping the Future of the Fourth Industrial

Revolution

Carbon-Neutral Architectural Design

Gaby González and the Search for Einstein's

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Applications of Big Data and Business Analytics in Management

Tropical Forest Ecosystem Responses to
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Fake Physics: Spoofs, Hoaxes and Fictitious
Science

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Language, Syntax, and
the Natural
Sciences Cambridge
University Press
*Oxford Weather and
Climate since 1767*
Emerald Group
Publishing
World Economic Forum
Founder and Executive
Chairman Klaus
Schwab offers a
practical companion
and field guide to his
previous book, *The
Fourth Industrial*

Revolution. Today,
technology is changing
everything--how we
relate to one another,
the way we work, how
our economies and
governments function,
and even what it
means to be human.
One need not look hard
to see how the
incredible advances in
artificial intelligence,
cryptocurrencies,
biotechnologies, and
the internet of things
are transforming
society in
unprecedented ways.
But the Fourth
Industrial Revolution is
just beginning, says
Schwab. And at a time
of such tremendous
uncertainty and such
rapid change, he
argues it's our actions

as individuals and leaders that will determine the trajectory our future will take. We all have a responsibility - as citizens, businesses, and institutions - to work with the current of progress, not against it, to build a future that is ethical, inclusive, sustainable and prosperous.

Drawing on contributions from 200 top experts in fields ranging from machine learning to geoen지니어ing to nanotechnology, to data ethics, Schwab equips readers with the practical tools to leverage the technologies of the future to leave the world better, safer, and more resilient than we found it.

How City Agencies Innovate Academic

Press

From the shaping of identities and belongings through to current reconfigurations of nation, governance and state under a Hindu-Right dispensation, this book tracks the sentiments and structures that sustain the nation and nationalism in India. Nation, Nationalism and the Public Sphere: Religious Politics in India provides wide-ranging accounts of the growth and transformations of the nation, focusing especially on the intimate interplay of nation-state and nationalism with dominant religion. Drawing upon the perspectives of history, politics, anthropology, literature, film and media studies, this

book explores key themes such as the appropriation and impact of western concepts of religion and the modern in postcolonial India and Pakistan, corporate bids to foster faith by erecting temples, formations of contemporary cosmopolitan religious imaginaries, the politics of cow protection, the rise of Narendra Modi as a national hero, and the fetish of the national in news channel debates. The book provides important insights into the success of the Hindu-Right, the discourse of religious-cultural nationalism, and their ramifications for democracy and citizenship.

Rising Frontiers Media SA

Have you ever wondered what it is like to work on a nuclear power plant? Robert Dutch worked in the UK's nuclear industry for many years as a scientist and then as a tutor at a nuclear training center. He also holds degrees in theology. Drawing upon his qualifications and experience Robert addresses the controversial issue of nuclear power from a Christian perspective. In contrast to a negative nuclear narrative often portrayed, he presents a positive nuclear narrative alongside other ways of generating electricity. Be prepared to be challenged to think seriously about nuclear's merits in providing clean, low-carbon electricity.

Failure Modes, Effects
and Causes of
Microbiologically
Influenced Corrosion

National Academies
Press

Discover new realms of
outer space in this
picture book biography
of scientist Gabriela
Gonzalez, who
immigrated to America
and became a ground-
breaking scientist.

Written by a molecular
biologist and illustrated
by an award-winning
artist, this stunning
picture book explores
science, space, and
history. In 1916, Albert
Einstein had a theory.
He thought that
somewhere out in the
universe, there were
collisions in space.
These collisions could
cause little sound
waves in the fabric of
space-time that might
carry many secrets of
the distant universe.

But it was only a
theory. He could not
prove it in his lifetime.
Many years later, an
immigrant scientist
named Gabriela
Gonzalez asked the
same questions. Armed
with modern
technology, she joined
a team of physicists
who set out to prove
Einstein's theory. At
first, there was
nothing. But then...
they heard a sound.
Gabriela and her team
examined, and
measured, and re-
measured until they
were sure. Completing
the work that Albert
Einstein had begun 100
years earlier, Gonzalez
broke ground for new
space-time research. In
a fascinating picture
book that covers 100
years, 2 pioneering
scientists, and 1
trailblazing discovery,
Patricia Valdez sheds

light on a little known but extraordinary story.

Lethality at Risk: Unclassified

Summary Princeton University Press

This book covers the sustainable tropical agriculture, sustainable tropical animal production and health, sustainable tropical forestry, socio-economic dimension in tropical agriculture and innovative and emerging food technology and management as chapters in this book.

The common challenging problems in plant, animal, and fisheries production in the tropic are climate change, inefficiency production system, low technological innovation, decreasing environment quality, and the outbreak risk

of pest and diseases.

Hearing Voices: The History of Psychiatry in Ireland is a monumental work by one of Ireland's leading Clinical Psychiatrists, encompassing every psychiatric development from the Middle Ages to the present day and examining all of its far-reaching social and political effects.

CRC Press

Essential reading for beginning and experienced clinicians alike, Sapira's Art & Science of Bedside Diagnosis, Fifth Edition, discusses the patient interview and the physical examination in an engaging, storytelling style. Tried and true methods are described in step-by-step detail, and include clinical pearls,

vignettes, practical clinical experiences, personal history, explanations of the physiologic significance of findings, and extensive discussions of evidence-based medicine. It's a useful guide for learning and reinforcing effective bedside diagnosis techniques at all levels and stages of clinical practice.

The Formative Years of Relativity Rowman & Littlefield

High-performance electronics are key to the U.S. Air Force's (USAF's) ability to deliver lethal effects at the time and location of their choosing. Additionally, these electronic systems must be able to withstand not only the rigors of the battlefield but be able to perform the needed mission

while under cyber and electronic warfare (EW) attack. This requires a high degree of assurance that they are both physically reliable and resistant to adversary actions throughout their life cycle from design to sustainment. In 2016, the National Academies of Sciences, Engineering, and Medicine convened a workshop titled Optimizing the Air Force's Acquisition Strategy of Secure and Reliable Electronic Components, and released a summary of the workshop. This publication serves as a follow-on to provide recommendations to the USAF acquisition community.

Religion and Higher Education in Europe and North America

Edward Elgar

Publishing
Deforestation and land use change have led to a strong reduction of tropical forest cover during the last decades. Climate change will amplify the pressure to the remaining refuges in the next years. In addition, tropical regions are facing increasing atmospheric inputs of nutrients, which will have unknown consequences for the structure and functioning of these systems, no matter if they are within protected areas or not. Even remote areas are expected to receive rising amounts of nutrients. The effects of higher rates of atmospheric nutrient deposition on the biological diversity and ecosystem functioning

of tropical ecosystems are poorly understood and our knowledge of nutrient fluxes and nutrient limitation in tropical forest ecosystems is still limited. Yet, it will be of paramount importance to know the effects of increased nutrient availability to conserve these ecosystems with their biological and functional diversity. During the last years, research efforts have more and more focused on the understanding of the role of nutrients in tropical ecosystems and several coordinated projects have been established that study the effects of experimental nutrient addition. This Research Topic combines results from experiments and from observational studies

with the aim to review and conclude on our current knowledge on the role of additional nutrients in ecosystems.

Shaping the Future of the Fourth Industrial Revolution

Columbia University Press

Part of the series Key Concepts in Indigenous Studies, this book focuses on the concepts that recur in any discussion of nature, culture and society among the indigenous. This final volume in the five-volume series deals with the two key concepts of performance and knowledge of the indigenous people from all continents of the world. With contributions from renowned scholars, activists and experts

across the globe, it looks at issues and ideas of the indigenous peoples in the context of imagination, creativity, performance, audience, arts, music, dance, oral traditions, aesthetics and beauty in North America, South America, Australia, East Asia and India from cultural, historical and aesthetic points of view. Bringing together academic insights and experiences from the ground, this unique book, with its wide coverage, will serve as a comprehensive guide for students, teachers and scholars of indigenous studies. It will be essential reading for those in social and cultural anthropology, tribal studies, sociology and social exclusion

studies, cultural studies, media studies and performing arts, literary and postcolonial studies, religion and theology, politics, Third World and Global South studies, as well as activists working with indigenous communities.

Carbon-Neutral Architectural Design

Cambridge University Press

In this book 60 authors from many disciplines and from 18 countries on five continents examine in ten parts: Moving towards Sustainability Transition; Aiming at Sustainable Peace; Meeting Challenges of the 21st Century: Demographic Imbalances, Temperature Rise and the Climate-Conflict Nexus; Initiating

Research on Global Environmental Change, Limits to Growth, Decoupling of Growth and Resource Needs; Developing Theoretical Approaches on Sustainability and Transitions; Analysing National Debates on Sustainability in North America; Preparing Transitions towards a Sustainable Economy and Society, Production and Consumption and Urbanization; Examining Sustainability Transitions in the Water, Food and Health Sectors from Latin American and European Perspectives; Preparing Sustainability Transitions in the Energy Sector; and Relying on Transnational, International, Regional and National

Governance for Strategies and Policies Towards Sustainability Transition. This book is based on workshops held in Mexico (2012) and in the US (2013), on a winter school at Chulalongkorn University, Thailand (2013), and on commissioned chapters. The workshop in Mexico and the publication were supported by two grants by the German Foundation for Peace Research (DSF). All texts in this book were peer-reviewed by scholars from all parts of the world.

Gaby González and the Search for Einstein's Ripples in Space-Time
Springer

The U.S. Nuclear Regulatory Commission (NRC) has prepared this environmental impact

statement (EIS) in response to an application submitted by Northwest Medical Isotopes, LLC (NWMI) for a construction permit for the NWMI medical radioisotope production facility. The EIS includes the analysis that evaluates the environmental impacts of the proposed action and considers the following alternatives to the proposed action: (1) the no-action alternative (i.e., the construction permit is denied), (2) one alternative site, and (3) two alternative technologies. After weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, the NRC

staff's recommendation, unless safety issues mandate otherwise, is to issue a construction permit to NWMI. The NRC staff based its recommendation on the following factors: the NRC staff's review of the NWMI Environmental Report and responses to requests for additional information; the NRC staff's consultation with Federal, State, and local agencies and Tribal officials; the NRC staff's independent environmental review; and the NRC staff's consideration of public comments Related products: Other products published by the U.S. Nuclear Regulatory Commission can be found here: <https://bookstore.gpo.gov/agency/nuclear->

regulatory-commission-nrc Environment & Nature resources collection can be found here:

<https://bookstore.gpo.gov/catalog/environment-nature>

The History and Meaning of Einstein's Princeton Lectures
Cambridge University Press

This latest Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) will again form the standard scientific reference for all those concerned with climate change and its consequences, including students and researchers in environmental science, meteorology, climatology, biology, ecology and atmospheric chemistry. It provides invaluable

material for decision makers and stakeholders: international, national, local; and in all branches: government, businesses, and NGOs. This volume provides:

- An authoritative and unbiased overview of the physical science basis of climate change
- A more extensive assessment of changes observed throughout the climate system than ever before
- New dedicated chapters on sea-level change, biogeochemical cycles, clouds and aerosols, and regional climate phenomena
- A more extensive coverage of model projections, both near-term and long-term climate projections
- A detailed assessment of climate change observations, modelling, and attribution for every

continent • A new comprehensive atlas of global and regional climate projections for 35 regions of the world
Smarter New York City
 Lippincott Williams & Wilkins

This comprehensive handbook gives a fully updated guide to lasers and laser technologies, including the complete range of their technical applications. This third volume covers modern applications in engineering and technology, including all new and updated case studies spanning telecommunications and data storage to medicine, optical measurement, defense and security, nanomaterials processing and characterization. Key Features: • Offers a complete update of the original, bestselling

work, including many brand-new chapters. • Deepens the introduction to fundamentals, from laser design and fabrication to host matrices for solid-state lasers, energy level diagrams, hosting materials, dopant energy levels, and lasers based on nonlinear effects. • Covers new laser types, including quantum cascade lasers, silicon-based lasers, titanium sapphire lasers, terahertz lasers, bismuth-doped fiber lasers, and diode-pumped alkali lasers. • Discusses the latest applications, e.g., lasers in microscopy, high-speed imaging, attosecond metrology, 3D printing, optical atomic clocks, time-resolved spectroscopy,

polarization and profile measurements, pulse measurements, and laser-induced fluorescence detection.

• Adds new sections on laser materials processing, laser spectroscopy, lasers in imaging, lasers in environmental sciences, and lasers in communications. This handbook is the ideal companion for scientists, engineers, and students working with lasers, including those in optics, electrical engineering, physics, chemistry, biomedicine, and other relevant areas.

How to Hear the Universe Springer

This book reveals unique transport phenomena and functionalities in topological insulators coupled with magnetism and

superconductivity. Topological insulators are a recently discovered class of materials that possess a spin-momentum-locked surface state. Their exotic spin texture makes them an exciting platform for investigating emergent phenomena, especially when coupled with magnetism or superconductivity. Focusing on the strong correlation between electricity and magnetism in magnetic topological insulators, the author presents original findings on current-direction-dependent nonreciprocal resistance, current-induced magnetization reversal and chiral edge conduction at the domain wall. In addition, he demonstrates how the

coupling between superconductivity and topological surface state leads to substantial nonreciprocal resistance. The author also elucidates the origins of these phenomena and deepens readers' understanding of the topologically nontrivial electronic state. The book includes several works which are published in top journals and were selected for the President's Award by the University of Tokyo and for the Ikushi Prize, awarded to distinguished Ph.D. students in Japan.

Climate Change 2013 - The Physical Science Basis Knopf Books for Young Readers
How should Christians react to environmental

crisis? Historically, evangelicals have ignored this aspect of living for Christ, so this book aims to reinvigorate and empower Christians across the globe to care for creation. This book collects the work of biblical scholars, theologians, biologists, environmental researchers, and community organizers who met at “The Global Consultation on Creation Care and the Gospel” in Jamaica in 2012. Participants from 23 countries as diverse as Argentina, Bangladesh, Benin, and Canada gathered for five days to pray, talk, and reflect on the state of the planet—the home in which we live—and on the role and ministry of the church in caring for God’s creation. The

book contains biblical and theological affirmations from well-respected scholars and teachers, reminding us that caring for creation is central to the evangelical faith. It is an integral part of our mission, an expression of our worship of God, and a matter of great joy and hope.

Negotiating Climate

Change National

Academies Press

From the Foreword:

"The authors of the chapters in this book are the pioneers who will explore the exascale frontier. The path forward will not be easy... These authors, along with their colleagues who will produce these powerful computer systems will, with dedication and determination, overcome the

scalability problem, discover the new algorithms needed to achieve exascale performance for the broad range of applications that they represent, and create the new tools needed to support the development of scalable and portable science and engineering applications. Although the focus is on exascale computers, the benefits will permeate all of science and engineering because the technologies developed for the exascale computers of tomorrow will also power the petascale servers and terascale workstations of tomorrow. These affordable computing capabilities will empower scientists

and engineers everywhere." — Thom H. Dunning, Jr., Pacific Northwest National Laboratory and University of Washington, Seattle, Washington, USA "This comprehensive summary of applications targeting Exascale at the three DoE labs is a must read." — Rio Yokota, Tokyo Institute of Technology, Tokyo, Japan "Numerical simulation is now a need in many fields of science, technology, and industry. The complexity of the simulated systems coupled with the massive use of data makes HPC essential to move towards predictive simulations. Advances in computer architecture have so far permitted scientific advances, but at the

cost of continually adapting algorithms and applications. The next technological breakthroughs force us to rethink the applications by taking energy consumption into account. These profound modifications require not only anticipation and sharing but also a paradigm shift in application design to ensure the sustainability of developments by guaranteeing a certain independence of the applications to the profound modifications of the architectures: it is the passage from optimal performance to the portability of performance. It is the challenge of this book to demonstrate by example the approach that one can adopt for the development of

applications offering performance portability in spite of the profound changes of the computing architectures." — Christophe Calvin, CEA, Fundamental Research Division, Saclay, France "Three editors, one from each of the High Performance Computer Centers at Lawrence Berkeley, Argonne, and Oak Ridge National Laboratories, have compiled a very useful set of chapters aimed at describing software developments for the next generation exascale computers. Such a book is needed for scientists and engineers to see where the field is going and how they will be able to exploit such architectures for their own work. The book will also benefit

students as it provides insights into how to develop software for such computer architectures. Overall, this book fills an important need in showing how to design and implement algorithms for exa-scale architectures which are heterogeneous and have unique memory systems. The book discusses issues with developing user codes for these architectures and how to address these issues including actual coding examples.' — Dr. David A. Dixon, Robert Ramsay Chair, The University of Alabama, Tuscaloosa, Alabama, USA
Small Changes for Big Impact CRC Press
 Language, apart from its cultural and social dimension, has a

scientific side that is connected not only to the study of 'grammar' in a more or less traditional sense, but also to disciplines like mathematics, physics, chemistry and biology. This book explores developments in linguistic theory, looking in particular at the theory of generative grammar from the perspective of the natural sciences. It highlights the complex and dynamic nature of language, suggesting that a comprehensive and full understanding of such a species-specific property will only be achieved through interdisciplinary work. *Language, Syntax, and the Natural Sciences* SAGE Publishing India
 This book examines how an error in global meta-policy set climate

change negotiations on an unproductive course. The decision to base negotiations on the Montreal Protocol and overlook the importance of interests, it argues, institutionalised an approach doomed to fail. By analysing interests, science and norms in the process, and the neglect of 'interactive minilateralism', learning was delayed until the more promising Paris Agreement was finally concluded, only to encounter a Trump Presidency, which (ironically) might offer further learning opportunities.

Exascale Scientific Applications Language, Syntax, and the Natural Sciences
First published in 1922 and based on lectures

delivered in May 1921, Albert Einstein's *The Meaning of Relativity* offered an overview and explanation of the then new and controversial theory of relativity. The work would go on to become a monumental classic, printed in numerous editions and translations worldwide. Now, *The Formative Years of Relativity* introduces Einstein's masterpiece to new audiences. This beautiful volume contains Einstein's insightful text, accompanied by important historical materials and commentary looking at the origins and development of general relativity. Hanoeh Gutfreund and Jürgen Renn provide fresh, original perspectives, placing

Einstein's achievements into a broader context for all readers. In this book, Gutfreund and Renn tell the rich story behind the early reception, spread, and consequences of Einstein's ideas during the formative years of general relativity in the late 1910s and 1920s. They show that relativity's meaning changed radically throughout the nascent years of its development, and they describe in detail the transformation of Einstein's work from the esoteric pursuit of one individual communicating with a handful of colleagues into the preoccupation

of a growing community of physicists, astronomers, mathematicians, and philosophers. This handsome edition quotes extensively from Einstein's correspondence and reproduces historical documents such as newspaper articles and letters. Inserts are featured in the main text giving concise explanations of basic concepts, and short biographical notes and photographs of some of Einstein's contemporaries are included. The first-ever English translations of two of Einstein's popular Princeton lectures are featured at the book's end.

Best Sellers - Books :

- [The Going To Bed Book By Sandra Boynton](#)
- [World Of Eric Carle, Around The Farm 30-button](#)

Animal Sound Book - Great For First Words - Pi Kids

- The Complete Summer I Turned Pretty Trilogy (boxed Set): The Summer I Turned Pretty; It's Not Summer Without You; We'll Always
- Tomorrow, And Tomorrow, And Tomorrow: A Novel By Gabrielle Zevin
- Hello Beautiful (oprah's Book Club): A Novel
- My First Library : Boxset Of 10 Board Books For Kids By Wonder House Books
- A Court Of Silver Flames (a Court Of Thorns And Roses, 5)
- A Court Of Frost And Starlight (a Court Of Thorns And Roses, 4) By Sarah J. Maas
- Our Class Is A Family (our Class Is A Family & Our School Is A Family)
- The Wager: A Tale Of Shipwreck, Mutiny And Murder By David Grann