

## **Nbn S21 100 1 En 2 Agoria**

*This book focuses on the gendered experiences of environmental change across different geographies and social contexts in South Asia and on diverse strategies of adapting to climate variability. The book analyzes how changes in rainfall patterns, floods, droughts, heatwaves and landslides affect those who are directly dependent on the agrarian economy. It examines the socio-economic pressures, including the increase in women's work burdens both in production and reproduction on gender relations. It also examines coping mechanisms such as male migration and the formation of women's collectives which create space for agency and change in rigid social relations. The volume looks at perspectives from India, Pakistan, Bangladesh and Nepal to present the nuances of gender relations across borders along with similarities and differences across geographical, socio-cultural and policy contexts. This book will be of interest to researchers and students of sociology, development, gender, economics, environmental studies and South Asian studies. It will also be useful for policymakers, NGOs and think tanks working in the areas of gender, climate change and development.*

*This greatly expanded third edition provides a comprehensive overview of clinical psychopharmacology, incorporating the major advances in the field since the previous edition's publication. Renowned experts from psychiatry, pharmacy, and nursing have integrated basic science, psychopharmacology, and clinical practice throughout the book in order to provide a thorough basis for prescribing. It covers all key psychiatric drugs and disorders and includes the latest data on efficacy, safety and tolerability. Adopting a pragmatic approach to drug nomenclature, both Neuroscience-based Nomenclature (NbN) and older generic terminology are included in the text reflecting that clinicians are likely to use both systems. Many chapters refer to current National Institute of Health and Care Excellence (NICE) guidelines, making this a crucial resource. Edited by leading authorities in the field, Professor Peter M. Haddad and Professor David J. Nutt, *Seminars in Clinical Psychopharmacology* emphasises evidence-based prescribing with the aim of achieving better clinical outcomes for patients.*

*Provides an overview of the current knowledge of polymicrobial diseases of multiple etiologic agents in both animals and humans. Explores the contribution to disease made by interacting and mutually reinforcing pathogens, which may involve bacteria, viruses, or parasites interacting with each other or bacteria interacting with fungi and viruses. Emphasis on identifying polymicrobial diseases, understanding the complex etiology of these diseases, recognizing difficulties in establishing methods for their study, identifying mechanisms of pathogenesis, and assessing appropriate methods of treatments.*

*Critical Mineral Resources of the United States*

*Polymicrobial Diseases*

*Geometry*

*June 9-11, 1987, Bally's Grand Hotel, Las Vegas, Nevada*

*Evolutionary Computing and Mobile Sustainable Networks*

*Questions in Qualitative Social Justice Research in Multicultural Contexts*

*Questions in Qualitative Social Justice Research in Multicultural Contexts take readers on an accessible*

*and inspiring journey to critically self-reflect on current or future research practices to encourage and facilitate greater equity, inclusion, and social justice in qualitative research. In a diverse world, "doing" qualitative research needs unpacking and developing awareness of interconnected perspectives and challenges. However, as researchers, there is not always a chance to fully prepare or self-reflect on the processes and experiences. This book raises awareness of key multidimensional aspects of social justice, such as power, privilege, trust, insider-outsiderness, ethics, arts-based, co-produced, and decolonial research. The authors connect theory and conceptual constructs with practical in-field realities, guiding researchers through the dynamic, evolving steps to give voice to and promote social justice practices in research. The book includes the following features to guide thinking for researchers and students: Bolded key terms and questions for self-reflection. Boxed case studies from both top international scholars and emerging scholars. Glossary of key terms. This foundational book can be used as a jumping-off point to engage and critically self-reflect about research moving us towards decolonizing research practice, creating more inclusive, equitable, and socially just research. It will be suitable for upper-level and postgraduate students and all researchers interested in qualitative methods in education and the social and behavioral sciences.*

*Nonlinear photonics is the name given to the use of nonlinear optical devices for the generation, communication, processing, or analysis of information. This book is a progress report on research into practical applications of such devices. At present, modulation, switching, routing, decision-making, and detection in photonic systems are all done with electronics and linear optoelectronic devices. However, this may soon change, as nonlinear optical devices, e.g. picosecond samplers and switches, begin to complement optoelectronic devices. The authors succinctly summarize past accomplishments in this field and point to hopes for the future, making this an ideal book for newcomers or seasoned researchers wanting to design and perfect nonlinear optical devices and to identify applications in photonic systems.*

*Un manuel pratique indispensable à tous les professionnels de la construction ! AR, ATG, BENOR, BeSaCC, CE, CQ, CUAP, DT, DTD, ETA, IEC, ISO, NBN, NIT, NTN, RGPT, STS, PTV, QUEST, STS, VCA...*

*• Que signifient ces sigles ? • Quelles spécifications ou certifications recouvrent-ils ? • Quelles sont les fonctions et portées de ceux-ci ? • Quels types de produits ou de services concernent-ils ? • Quelle est leur hiérarchie générale et quel type de garantie offrent-ils ? • Comment et par qui sont-elles élaborées ou validées ? Autant de questions que peut se poser le professionnel de la construction confronté au*

*domaine touffu de références et labels d'origines diverses et qui peuvent lui sembler incompréhensibles ou confus. Sous la double approche technique et juridique, le présent ouvrage se donne pour objectif de dégager les lignes de force et hiérarchies des références utilisées pour la conception, la prescription et le contrôle, dans le secteur de la construction. Cette présentation structurée de l'ensemble des contraintes réglementaires et contractuelles, des règles de l'art ou de bonne pratique, des certificats ou labels, tant obligatoires que d'application volontaire, est complétée, dans les annexes, par un glossaire, un index et une table des sigles et abréviations trilingue. Ce panorama synthétique des contraintes et signes de qualité constitue un outil de référence utile aux professionnels et juristes de la construction. À PROPOS DE L'ÉDITEUR Larcier Group, composé des marques d'édition juridique prestigieuses que sont Larcier, Bruylant, Promoculture-Larcier, propose des solutions documentaires adaptées aux besoins spécifiques de tous les professionnels du droit belge, luxembourgeois et français (avocats, magistrats, notaires, juristes d'entreprise,...). Fournisseur historique et privilégié de toutes les sources du droit, son offre éditoriale est composée, notamment, de la base de données juridique la plus complète de Belgique (Strada lex), de plus de 300 nouvelles monographies par an, plus de 70 revues juridiques, plusieurs collections de Codes, de logiciels de calculs et d'un riche catalogue de formations. Larcier Group est l'éditeur numéro 1 dans le segment juridique en Belgique. À côté de ce segment juridique, Larcier Group s'adresse également aux professions économiques et aux professions RH en Belgique avec sa marque Larcier Business et son offre éditoriale principalement numérique. Avec Indicator, Larcier Group fait partie, depuis juin 2016, du Groupe Éditions Lefebvre- Sarrut, à présent leader en Belgique sur tous les segments de l'édition juridique et fiscale.*

*Digital Communications*

*Proceedings*

*A Cross-disciplinary and Multi-level Analysis*

*1987 IEEE MTT-S International Microwave Symposium Digest*

*Seminars in Clinical Psychopharmacology*

*Development of Design Rules for Steel Structures Subjected to Natural Fires in the Large Compartments*

**Digital Communications is a classic book in the area that is designed to be used as a senior or graduate level text. The text is flexible and can easily be used in a one semester course or there is enough depth to cover two semesters. Its comprehensive nature makes it a great book for students to**

keep for reference in their professional careers. This all-inclusive guide delivers an outstanding introduction to the analysis and design of digital communication systems. Includes expert coverage of new topics: Turbocodes, Turboequalization, Antenna Arrays, Digital Cellular Systems, and Iterative Detection. Convenient, sequential organization begins with a look at the history and classification of channel models and builds from there.

Since its inception in 1966, the series of numbered volumes known as Semiconductors and Semimetals has distinguished itself through the careful selection of well-known authors, editors, and contributors. The "Willardson and Beer" Series, as it is widely known, has succeeded in publishing numerous landmark volumes and chapters. Not only did many of these volumes make an impact at the time of their publication, but they continue to be well-cited years after their original release. Recently, Professor Eicke R. Weber of the University of California at Berkeley joined as a co-editor of the series. Professor Weber, a well-known expert in the field of semiconductor materials, will further contribute to continuing the series' tradition of publishing timely, highly relevant, and long-impacting volumes. Some of the recent volumes, such as Hydrogen in Semiconductors, Imperfections in III/V Materials, Epitaxial Microstructures, High-Speed Heterostructure Devices, Oxygen in Silicon, and others promise indeed that this tradition will be maintained and even expanded. Reflecting the truly interdisciplinary nature of the field that the series covers, the volumes in Semiconductors and Semimetals have been and will continue to be of great interest to physicists, chemists, materials scientists, and device engineers in modern industry.

This book highlights cutting-edge research on various aspects of human-computer interaction (HCI). It includes selected research papers presented at the Third International Conference on Computing, Communication and Signal Processing (ICASP 2018), organized by Dr. Babasaheb Ambedkar Technological University in Lonere-Raigad, India on January 26-27, 2018. It covers pioneering topics in the field of computer, electrical, and electronics engineering, e.g. signal and image processing, RF and microwave engineering, and emerging technologies such as IoT, cloud computing, HCI, and green computing. As such, the book offers a valuable guide for all scientists, engineers and research students in the areas of engineering and technology.

Semiconductor Nanostructures

Superconducting Nanowire Single-Photon Detectors for Quantum Photonic Integrated Circuits on GaAs

A Comprehensive Overview

Gallium-Nitride (GaN) II

Computing, Communication and Signal Processing

Acoustics of Musical Instruments

*Ultrawideband (UWB) communication systems offer an unprecedented opportunity to impact the future communication world. The enormous available bandwidth, the wide scope of the data rate / range trade-off, as well as the potential for very low-cost operation leading to pervasive usage, all present a unique opportunity for UWB systems to impact the way people and intelligent machines communicate and interact with their environment. The aim of this book is to provide an overview of the state of the art of UWB systems from theory to applications. Due to the rapid progress of multidisciplinary UWB research, such an overview can only be achieved by combining the areas of expertise of several scientists in the field. More than 30 leading UWB researchers and practitioners have contributed to this book covering the major topics relevant to UWB. These topics include UWB signal processing, UWB channel measurement and modeling, higher-layer protocol issues, spatial aspects of UWB signaling, UWB regulation and standardization, implementation issues, and UWB applications as well as positioning. The book is targeted at advanced academic researchers, wireless designers, and graduate students wishing to greatly enhance their knowledge of all aspects of UWB systems. This book is a compilation of research work in the interdisciplinary areas of electronics, communication, and computing. This book is specifically targeted at students, research scholars and academicians. The book covers the different approaches and techniques for specific applications, such as particle-swarm optimization, Otsu's function and harmony search optimization algorithm, triple gate silicon on insulator (SOI) MOSFET, micro-Raman and Fourier Transform Infrared Spectroscopy (FTIR) analysis, high-k dielectric gate oxide, spectrum sensing in cognitive radio, microstrip antenna, Ground-penetrating radar (GPR) with conducting surfaces, and digital image forgery detection. The contents of the book will be useful to academic and professional researchers alike.*

*This book is a printed edition of the Special Issue "Ovarian Cancer Screening" that was published in Diagnostics Proceedings of ICCASP 2018*

*Economic and Environmental Geology and Prospects for Future Supply*

*Ginza Rba*

*The Maudsley Prescribing Guidelines in Psychiatry*

*Real-time imaging systems for superconducting nanowire single-photon detector arrays*

*Ovarian Cancer Screening*

**Front cover -- Titelseite -- Impressum -- Acknowledgments -- Contents -- List of Abbreviations and Acronyms -- Abstract -- Zusammenfassung -- Chapter 1 Introduction -- 1.1 Principle of the Partitioning Design Approach -- 1.2 Dissertation Organization -- Chapter 2 Investigation of Planar-Interconnection -- 2.1 Active Chip Device Interconnection -- 2.1.1 Die Attach -- 2.1.2 Wire Bonding Pad-To-Microstrip -- 2.2 Microstrip-to-Microstrip Interconnection -- 2.2.1 Soldering -- 2.2.2 Multi-Wire Bonding -- 2.2.3 Copper Ribbon -- 2.2.4 Silver- Painting -- Chapter 3 Analysis and Modeling of Passive SMD Components -- 3.1 SMD Resistor -- 3.2 SMD Capacitor -- 3.3 SMD Inductor -- Chapter 4 Modeling of AlGaAs/GaAs HEMT**

*Chip Device -- 4.1 AlGaAs/GaGa HEMT Chip -- 4.2 Modeling Approach Overview -- 4.3 Small-Signal Modeling -- 4.3.1 Extrinsic Parameter Extraction -- 4.3.2 Intrinsic Parameter Extraction -- 4.4 Large-Signal Modeling -- 4.4.1 Gate Current and Charge Models -- 4.4.2 Drain Current Model -- 4.4.3 Model Verification -- Chapter 5 Demonstrator Design of a Class-AB Power Amplifier Following -- 5.1 Micro-Packaged Device Characterization -- 5.1.1 Small-Signal Performance -- 5.1.2 Large-Signal Performance -- 5.2 Bias Network Design -- 5.2.1 Drain Bias Network -- 5.2.2 Gate Bias Network -- 5.3 Matching Network Design -- 5.3.1 Matching Impedance Determination -- 5.4 Power Amplifier Performance Evaluation -- 5.4.1 Small-Signal Performance -- 5.4.2 Large-Signal Performance -- Chapter 6 Conclusions and Outlook -- Appendix -- Appendix A THLR In-Fixture Calibration -- Appendix B Precise Determination of Substrate Permittivity -- Appendix C Schematic Circuit of the Designed Power Amplifier Demonstrator -- Appendix D Power Amplifier Design Following the Conventional Design Approach -- References -- Back cover*

*Actueel overzicht van de bodemregelgeving in Vlaanderen en Brussel: Dit becommentarieerd wetboek bevat de Vlaamse en de Brusselse regelingen inzake bodem. Naast het Vlaamse bodemdecreet (van 2006) en de Brusselse bodemordonnantie (van 2009) zijn ook de relevante uitvoeringsbesluiten opgenomen (bijgewerkt tot 1 oktober 2012). Van het Brussels Hoofdstedelijk Gewest worden de teksten zowel in het Nederlands als in het Frans opgenomen. Verrijkt met uitgebreide annotaties, geput uit de rijke rechtspraak en administratieve beslissingen: Het Vlaamse bodemdecreet en de Brusselse bodemordonnantie worden artikelsgewijs voorzien van annotaties bestaande uit wetshistorieken en handige interne kruisverwijzingen en verder van uitgebreide commentaar met verwijzingen naar parlementaire voorbereiding, rechtsleer en rechtspraak, zowel de relevante rechtspraak van het Grondwettelijk Hof, van de Raad van State als van de (gewone) hoven en rechtbanken. De bodemregelgeving is immers, voornamelijk via de grondoverdrachtregeling, diep doorgedrongen in privaatrechtelijke verhoudingen. Dit heeft aanleiding gegeven tot een rijke rechtspraak, bijvoorbeeld in koop- en huurrechtgeschillen of appartement -mede-eigendom. Naast de rechtspraak stricto sensu zijn ook de administratieve beslissingen (OVAM of Vlaamse Regering, bijvoorbeeld inzake vrijstelling van saneringsplicht) in de annotaties betrokken omwille van hun belang voor de rechtspraak. Handig werkinstrument: Deze annotaties maken deze uitgave tot een uniek werkinstrument voor notarissen, vastgoedmakelaars, boekhouders, bodemdeskundigen, experts in onroerende goederen, bedrijfsjuristen, bedrijfsrevisoren, ambtenaren, curatoren, magistraten en advocaten. De kruisverwijzingen en het trefwoordenregister vergemakkelijken de raadpleging.*

*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.*

*Learnings from South Asia*

*A High School Course*

*American Radio*

*Engendering Climate Change*

*A study on patients with Parkinson's disease*

*List of Intercepted Plant Pests*

*The revised 13th edition of the essential reference for the prescribing of drugs for patients with mental health disorders The revised and updated 13th edition of The Maudsley Prescribing Guidelines in Psychiatry provides up-to-date information, expert guidance on prescribing practice in mental health, including drug choice, treatment of adverse effects and how to augment or switch medications. The text covers a wide range of topics including pharmacological interventions for schizophrenia, bipolar disorder, depression and anxiety, and many other less common conditions. There is advice on prescribing in children and adolescents, in substance misuse and in special patient groups. This world-renowned guide has been written in concise terms by an expert team of psychiatrists and specialist pharmacists. The Guidelines help with complex prescribing problems and include information on prescribing psychotropic medications outside their licensed indications as well as potential interactions with other medications and substances such as alcohol, tobacco and caffeine. In addition, each of the book's 165 sections features a full reference list so that evidence on which guidance is based can be readily accessed. This important text: Is the world's leading clinical resource for evidence-based prescribing in day-to-day clinical practice and for formulating prescribing policy Includes referenced information on topics such as transferring from one medication to another, prescribing psychotropic medications during pregnancy or breastfeeding, and treating patients with comorbid physical conditions, including impaired renal or hepatic function. Presents guidance on complex clinical problems that may not be encountered routinely Written for psychiatrists, neuropharmacologists, pharmacists and clinical*

*psychologists as well as nurses and medical trainees, The Maudsley Prescribing Guidelines in Psychiatry are the established reference source for ensuring the safe and effective use of medications for patients presenting with mental health problems. As the importance and dependence of specific mineral commodities increase, so does concern about their supply. The United States is currently 100 percent reliant on foreign sources for 20 mineral commodities and imports the majority of its supply of more than 50 mineral commodities. Mineral commodities that have important uses and face potential supply disruption are critical to American economic and national security. However, a mineral commodity's importance and the nature of its supply chain can change with time; a mineral commodity that may not have been considered critical 25 years ago may be critical today, and one considered critical today may not be so in the future. The U.S. Geological Survey has produced this volume to describe a select group of mineral commodities currently critical to our economy and security. For each mineral commodity covered, the authors provide a comprehensive look at (1) the commodity's use; (2) the geology and global distribution of the mineral deposit types that account for the present and possible future supply of the commodity; (3) the current status of production, reserves, and resources in the United States and globally; and (4) environmental considerations related to the commodity's production from different types of mineral deposits. The volume describes U.S. critical mineral resources in a global context, for no country can be self-sufficient for all its mineral commodity needs, and the United States will always rely on global mineral commodity supply chains. This volume provides the scientific understanding of critical mineral resources required for informed decisionmaking by those responsible for ensuring that the United States has a secure and sustainable supply of mineral commodities.*

*At last: geometry in an exemplary, accessible and attractive form! The authors emphasise both the intellectually stimulating parts of geometry and routine arguments or computations in concrete or classical cases, as well as practical and physical applications. They also show students the fundamental concepts and the difference between important results and minor technical routines. Altogether, the text presents a coherent high school curriculum for the geometry course, naturally backed by numerous examples and exercises.*

*The Protection of Historic Buildings and Their Artistic Contents Against Crime and Wilful Damage*

*Reports of Cases Before the Court of Justice and the Court of First Instance*

*UWB Communication Systems*

*The Legitimacy of Standardisation as a Regulatory Technique*

*Introduction to Continuum Mechanics*

This timely book examines the field of European and global standardisation, showing how standards give rise to a multitude of different legal questions. It explores diverse topics in regulation such as food safety, accounting, telecommunications and medical devices. Each chapter offers in-depth analysis of a number of key policy areas. These multi-disciplinary contributions go beyond

the field of law, and provide cross-disciplinary comparisons.

Reducing the size of a coherently grown semiconductor cluster in all three directions of space to a value below the de Broglie wavelength of a charge carrier leads to complete quantization of the energy levels, density of states, etc. Such "quantum dots" are more similar to giant atoms in a dielectric cage than to classical solids or semiconductors showing a dispersion of energy as a function of wavevector. Their electronic and optical properties depend strongly on their size and shape, i.e. on their geometry. By designing the geometry by controlling the growth of QDs, absolutely novel possibilities for material design leading to novel devices are opened. This multiauthor book written by world-wide recognized leaders of their particular fields and edited by the recipient of the Max-Born Award and Medal 2006 Professor Dieter Bimberg reports on the state of the art of the growing of quantum dots, the theory of self-organised growth, the theory of electronic and excitonic states, optical properties and transport in a variety of materials. It covers the subject from the early work beginning of the 1990s up to 2006. The topics addressed in the book are the focus of research in all leading semiconductor and optoelectronic device laboratories of the world.

Principles of Terahertz Science and Technology aims to elucidate the fundamentals of THz technology and science for potential new users. It surveys major techniques of generating, detecting, and manipulating THz waves and also discusses a number of essential processes where THz waves interact with physical, chemical, and biological systems. This book serves as an introduction to THz technology for new researchers in various fields. Many different disciplines, such as ultrafast spectroscopy, semiconductor device fabrication, bio-medical imaging and more, involve the recent development of THz technology. It is necessary to lay down a strong, common foundation among researchers, so that communication can proceed smoothly. Previous THz research activities have concentrated on generation and detection, but the focus has now shifted to practical applications of this technology, such as high-speed optoelectronic signal processing and molecular spectroscopy. Drawing upon years of practical experience and using numerous examples and illustrative applications Yun-Shik Lee discusses: The major techniques of generating, detecting, and manipulating THz waves Essential processes where THz waves interact with physical, chemical, and biological systems Medical Applications of T-Ray Imaging including, optical properties of human tissue, cancer diagnostics, reflective imaging of skin burns and detection of dental caries Principles of Terahertz Science and Technology is an ideal book for applied physicists, microwave engineers, biomedical engineers, electrical engineers, and analytical chemists interested in the fundamentals and applications of THz engineering.

The Indian Textile Journal

Reliable RF Power Amplifier Design Based on a Partitioning Design Approach

Introduction to Matrix Analysis and Applications

Guide pratique des règles de l'art

Proceedings of ICECMSN 2020

Court of Justice. Part I

Kwartalnik naukowy "BiTP. Bezpieczeństwo i Technika Pożarnicza/ Safety & Fire Technique" jest pismem recenzowanym kierowanym do kadr kierowniczych ochrony przeciwpożarowej, pracowników jednostek administracji państwowej i samorządowej zajmujących się problematyką zarządzania kryzysowego, pracowników naukowych i dydaktycznych uczelni i instytutów badawczych zainteresowanych tematyką ochrony przeciwpożarowej, ochrony ludności i bezpieczeństwa powszechnego. W ocenie czasopism Ministerstwa Nauki i Szkolnictwa Wyższego (Komunikat z dnia 18 grudnia 2015 r.) Kwartalnik otrzymał 13 punktów. ISSN 1895-8443 Więcej informacji na stronie bitp.cnbop.pl

Spis treści numeru:<http://bitp.cnbop.pl/nowybitp/> Wydawnictwo CNBOP-PIB

Reports of Cases Before the Court of Justice and the Court of First Instance  
The Legitimacy of Standardisation as a Regulatory Technique  
A Cross-disciplinary and Multi-level Analysis  
Edward Elgar Publishing

Matrices can be studied in different ways. They are a linear algebraic structure and have a topological/analytical aspect (for example, the normed space of matrices) and they also carry an order structure that is induced by positive semidefinite matrices. The interplay of these closely related structures is an essential feature of matrix analysis. This book explains these aspects of matrix analysis from a functional analysis point of view. After an introduction to matrices and functional analysis, it covers more advanced topics such as matrix monotone functions, matrix means, majorization and entropies. Several applications to quantum information are also included. Introduction to Matrix Analysis and Applications is appropriate for an advanced graduate course on matrix analysis, particularly aimed at studying quantum information. It can also be used as a reference for researchers in quantum information, statistics, engineering and economics.

JJAP

Levodopa pharmacokinetics -from stomach to brain

Wet & Duiding Bodem

JJAP Letters

Advances in Electronics, Communication and Computing

BiTP 1/2017

**Parkinson's disease (PD) is one of the most common neurodegenerative disorders and it is caused by a loss of dopamine (DA) producing neurons in the basal ganglia in the brain. The PD patient suffers from motor symptoms such as tremor, bradykinesia and rigidity and treatment with levodopa (LD), the precursor of DA, has positive effects on these symptoms. Several factors affect the availability of orally given LD. Gastric emptying (GE) is one factor and it has**

been shown to be delayed in PD patients resulting in impaired levodopa uptake. Different enzymes metabolize LD on its way from the gut to the brain resulting in less LD available in the brain and more side effects from the metabolites. By adding dopa decarboxylase inhibitors (carbidopa or benserazide) or COMT-inhibitors (e.g. entacapone) the bioavailability of LD increases significantly and more LD can pass the blood-brain-barrier and be converted to DA in the brain. It has been considered of importance to avoid high levodopa peaks in the brain because this seems to induce changes in postsynaptic dopaminergic neurons causing disabling motor complications in PD patients. More continuously given LD, e.g. duodenal or intravenous (IV) infusions, has been shown to improve these motor complications. Deep brain stimulation of the subthalamic nucleus (STN DBS) has also been proven to improve motor complications and to make it possible to reduce the LD dosage in PD patients. In this doctoral thesis the main purpose is to study the pharmacokinetics of LD in patients with PD and motor complications; in blood and subcutaneous tissue and study the effect of GE and PD stage on LD uptake and the effect of continuously given LD (CDS) on LD uptake and GE; in blood and cerebrospinal fluid (CSF) when adding the peripheral enzyme inhibitors entacapone and carbidopa to LD infusion IV; in brain during STN DBS and during oral or IV LD treatment. To conclude, LD uptake is more favorable in PD patients with less severe disease and GE is delayed in PD patients. No obvious relation between LD uptake and GE or between GE and PD stage is seen and CDS decreases the LD levels. Entacapone increases the maximal concentration of LD in blood and CSF. This is more evident with additional carbidopa and important to consider in avoiding high LD peaks in brain during PD treatment. LD in brain increases during both oral and IV LD treatment and the DA levels follows LD well indicating that PD patients still have capacity to metabolize LD to DA despite probable pronounced nigral degeneration. STN DBS seems to increase putaminal DA levels and together with IV LD treatment also increases LD in brain possibly explaining why it is possible to decrease LD medication after STN DBS surgery. Parkinsons sjukdom (PS) är en av de vanligaste s.k. neurodegenerativa sjukdomarna och orsakas av förlust av dopamin(DA)producerande nervceller i hjärnan. Detta orsakar motoriska symptom såsom skakningar, stelhet och förlångsammade rörelser. Levodopa (LD) är ett ämne, som kan omvandlas till DA i hjärnan och

ge symptomb lindring och det är oftast förstahandsval vid behandling av patienter med PS. Flera faktorer påverkar tillgängligheten av LD, bl.a. den hastighet som magsäcken tömmer sig med och denna verkar förlångsammad hos personer med PS vilket ger sämre tillgänglighet av LD i blodet och därmed i hjärnan. LD bryts även ner i hög grad av olika enzym ute i kroppen vilket leder till mindre mängd LD som hamnar i hjärnan och till fler nedbrytningsprodukter som orsakar biverkningar. Tillägg av enzymhämmare leder till ökad mängd LD som kan nå hjärnan och omvandlas till DA. Det anses viktigt att undvika höga toppar av LD i hjärnan då dessa verkar bidra till utvecklandet av besvärliga motoriska komplikationer hos patienter med PS. Om LD ges mer kontinuerligt, exempelvis som en kontinuerlig infusion in i tarmen eller i blodet, så minskar dessa motoriska komplikationer. Inopererande av stimulatorer i vissa delar av hjärnan (DBS) har också visat sig minska dessa motoriska komplikationer och även resultera i att man kan minska LD-dosen. Huvudsyftet med den här avhandlingen är att studera LD hos patienter med PS; i blod och fettvävnad då LD ges i tablettform och se om det finns något samband med LD-upptag och hastigheten på magsäckstömningen (MT) och om kontinuerligt given LD påverkar LD-upptaget eller MT; i blod och i ryggmärgsvätska då enzymhämmarna entakapon och karbidopa tillsätts LD; i hjärna vid behandling med DBS och då LD ges både som tablett och som infusion i blodet. Sammanfattningsvis kan vi se att LD-upptaget är mer gynnsamt hos patienter med PS i tidigare skede av sjukdomens komplikationsfas. MT är förlångsammad hos patienter med PS och det är inget tydligt samband mellan LD-upptag och MT eller mellan MT och sjukdomsgrad. Kontinuerligt given LD minskar LDnivåerna. Enzymhämmaren entakapon ökar den maximala koncentrationen av LD i blod och ryggmärgsvätska och effekten är mer tydlig vid tillägg av karbidopa vilket är viktigt att ta i beaktande vid behandling av PS för att undvika höga toppar av LD i hjärnan. LD ökar i hjärnan då man behandlar med LD i tablettform och som infusion i blodet och DA-nivåerna i hjärnan följer LD väl vilket visar på att patienter med PS fortfarande kan omvandla LD till DA trots trolig uttalad brist av de DA-producerande nervcellerna i hjärnan. DBS verkar öka DA i vissa områden i hjärnan och tillsammans med LD-infusion i blodet verkar det även öka LD i hjärnan och det kan förklara varför man kan sänka LDdosen efter DBS-operation.

This book, the first English-language translation of *Acoustique des instruments de musique*,

**Second Edition, presents the necessary foundations for understanding the complex physical phenomena involved in musical instruments. What is the function of the labium in a flute? Which features of an instrument allow us to make a clear audible distinction between a clarinet and a trumpet? With the help of numerous examples, these questions are addressed in detail. The authors focus in particular on the significant results obtained in the field during the last fifteen years. Their goal is to show that elementary physical models can be used with benefit for various applications in sound synthesis, instrument making, and sound recording. The book is primarily addressed to graduate students and researchers; however it could also be of interest for engineers, musicians, craftsmen, and music lovers who wish to learn about the basics of musical acoustics.**

**Continuum mechanics studies the response of materials to different loading conditions. The concept of tensors is introduced through the idea of linear transformation in a self-contained chapter, and the interrelation of direct notation, indicial notation and matrix operations is clearly presented. A wide range of idealized materials are considered through simple static and dynamic problems, and the book contains an abundance of illustrative examples and problems, many with solutions. Through the addition of more advanced material (solution of classical elasticity problems, constitutive equations for viscoelastic fluids, and finite deformation theory), this popular introduction to modern continuum mechanics has been fully revised to serve a dual purpose: for introductory courses in undergraduate engineering curricula, and for beginning graduate courses.**

**Contraintes et signes de qualité dans la construction**

**English Transliteration**

**Heat Capacity and Thermal Expansion at Low Temperatures**

**ETAERE-2016**

**Nonlinear Photonics**

**Principles of Terahertz Science and Technology**

*This book features selected research papers presented at the International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2020), held at the Sir M. Visvesvaraya Institute of Technology on 20–21 February 2020. Discussing advances in evolutionary computing technologies,*

*including swarm intelligence algorithms and other evolutionary algorithm paradigms which are emerging as widely accepted descriptors for mobile sustainable networks virtualization, optimization and automation, this book is a valuable resource for researchers in the field of evolutionary computing and mobile sustainable networks.*