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Numerical Methods in Science and Engineering A Practical Approach COMPUTATIONAL STRUCTURAL MECHANICS Computational Methods and Data Engineering Mathematical Modelling and Numerical Analysis of Size-Dependent Structural Members in Temperature Fields Numerical Methods in Science and Engineering A Practical Approach Finite Element Analysis in Engineering Design Engineering Mechanics Statics And Dynami Dynamics of Structure and Foundation - A Unified Approach Theory of Beam-Columns, Volume 2 Numerical Techniques for Engineering Analysis and Design Structural Dynamics of Earthquake Engineering Quantum Mechanics II Numerical Methods for Non-linear Problems Numerical Methods for Science and Engineering. -- Publisher's Monthly Analysis, Design and Construction of Steel Space Frames Handbook of Parallel Computing Applied Mechanics Reviews Numerical Methods in Geotechnical Engineering IX, Volume 2 Numerical Methods in Geotechnical Engineering IX Finite Element Methods in Engineering Numerical Models in Geomechanics Sentimental Analysis and Deep Learning Bioinformatics and Computational Biology International Books in Print Proceedings of the International Conference on Numerical Methods in Engineering--Theory and Applications, NUMETA '87, Swansea, 6-10 July 1987 Bridge Engineering Handbook, Five Volume Set, Second Edition Randomization Methods in Algorithm Design Haar Wavelets Indian Journal of Engineering and Materials Sciences Steel Framed Structures Issues in Structural and Materials Engineering: 2011 Edition Indian Books in Print Timing Jitter in Time-Of-Flight Range Imaging Cameras Structural Seismic Design Optimization and Earthquake Engineering: Formulations and Applications Design and Modeling of Mechanical Systems - IV Cost Accounting Computational Biomechanics of the Heart and Vasculature with Potential Clinical and Surgical Applications Scientific and Technical Aerospace Reports Handbook of Research on Advancements in Manufacturing, Materials, and Mechanical Engineering

Indian Books in Print Feb 01 2020

Randomization Methods in Algorithm Design Jul 08 2020 This volume is based on proceedings held during the DIMACS workshop on Randomization Methods in Algorithm Design in December 1997 at Princeton. The workshop was part of the DIMACS Special Year on Discrete Probability. It served as an interdisciplinary research workshop that brought together a mix of leading theorists, algorithmists and practitioners working in the theory and implementation aspects of algorithms involving randomization. Randomization has played an important role in the design of both sequential and parallel algorithms. The last decade has witnessed tremendous growth in the area of randomized algorithms. During this period, randomized algorithms went from being a tool in computational number theory to finding widespread applications in many problem domains. Major topics covered include randomization techniques for linear and integer programming problems, randomization in the design of approximate algorithms for combinatorial problems, randomization in parallel and distributed algorithms, practical implementation of randomized algorithms, de-randomization issues, and pseudo-random generators. This volume focuses on theory and implementation aspects of algorithms involving randomization. It would be suitable as a graduate or advanced graduate text.

Haar Wavelets Jun 06 2020 This is the first book to present a systematic review of applications of the Haar wavelet method for solving Calculus and Structural Mechanics problems. Haar wavelet-based solutions for a wide range of problems, such as various differential and integral equations, fractional equations, optimal control theory, buckling, bending and vibrations of elastic beams are considered. Numerical examples demonstrating the efficiency and accuracy of the Haar method are provided for all solutions.

Dynamics of Structure and Foundation - A Unified Approach Mar 28 2022 Designed to provide engineers with quick access to current and practical information on the dynamics of structure and foundation, this 2-volume reference work is intended for engineers involved with earthquake or dynamic analysis, or the design of machine foundations in the oil, gas, and energy sector. Whereas the first volume deals with the fundamentals, this volume is dedicated to applications in various civil engineering problems, related to dynamic soil-structure interaction, machine foundation and earthquake engineering. It presents innovative, easy-to-apply and practical solutions to various problems and difficulties a design engineer will encounter. It allows quick access to targeted information; it includes a wealth of case studies and also examines geotechnical considerations with regard to dynamic soil-structure interaction. This book is concentrated on three major application areas: dynamic soil-structure interaction (DSSI), rhe analysis and design of machine foundations, and on the analytical and design concepts for earthquake engineering. Vol. 1 (ISBN 9780415471459) focusses on the theory and fundamentals book.

Numerical Methods for Non-linear Problems Oct 23 2021

Timing Jitter in Time-Of-Flight Range Imaging Cameras Jan 02 2020 This book explains how depth measurements from the Time-of-Flight (ToF) range imaging cameras are influenced by the electronic timing-jitter. The author presents jitter extraction and measurement techniques for any type of ToF range imaging cameras. The author mainly focuses on ToF cameras that are based on the amplitude modulated continuous wave (AMCW) lidar techniques that measure the phase difference between the emitted and reflected light signals. The book discusses timing-jitter in the emitted light signal, which is sensible since the light signal of the camera is relatively straightforward to access. The specific types of jitter that present on the light source signal are investigated throughout the book. The book is structured across three main sections: a brief literature review, jitter measurement, and jitter influence in AMCW ToF range imaging.

Finite Element Methods in Engineering Feb 12 2021

Analysis, Design and Construction of Steel Space Frames Jul 20 2021 Space frames provide a lightweight solution to the problem of creating large span enclosures free from obstructions. They are employed in many major constrcution projects across the world, as documented in this authoritatively written volume.This is the first in-depth book to present all instances and applications of space frames in various engineering schemes. It uses case studies and numerous illustrations to examine steel space frames from their design to their structural engineering performance.

Computational Methods and Data Engineering Sep 02 2022 The book features original papers from International Conference on Computational Methods and Data Engineering (ICCMDE 2021), organized by School of Computer Science and Engineering, Vellore Institute of Technology, Vellore, Tamil Nadu, India, during November 25–26, 2021. The book covers innovative and cutting-edge work of researchers, developers, and practitioners from academia and industry working in the area of advanced computing.

Indian Journal of Engineering and Materials Sciences May 06 2020

Numerical Methods in Science and Engineering   A Practical Approach Nov 04 2022 During the past two decades,owing to the advent of digital computers ,numerical methods of analysis have become very popular for the solution of complex problems in physical and management sciences and in engineering.As the price of hardware keeps decreasing repidly,experts predict that in the near future one may have to pay onliy for sodtware.This underscores the importance of numerical computation to the scientist and engineers and,today,most undergraduates and postgraduates are being given training in the use of computers and access to the computers for the solution of problems.

Mathematical Modelling and Numerical Analysis of Size-Dependent Structural Members in Temperature Fields Aug 01 2022 This book is devoted to researchers and teachers, as well as graduate students, undergraduates and bachelors in engineering mechanics, nano-mechanics, nanomaterials, nanostructures and applied mathematics. It presents a collection of the latest developments in the field of nonlinear (chaotic) dynamics of mass distributed-parameter nanomechanical structures, providing a rigorous and comprehensive study of modeling nonlinear phenomena. It is written in a unique pedagogical style particularly suitable for independent study and self-education. In addition, the book achieves a good balance between Western and Eastern extensive studies of the mathematical problems of nonlinear vibrations of structural members.

Publisher's Monthly Aug 21 2021

Theory of Beam-Columns, Volume 2 Feb 24 2022 This second volume of a two-volume work discussessystematically the complete theory of space beam-columns.It presents principles and methods of analysis for beam-columns in space which should be the basis for structuraldesign and shows how these theories are applied for thesolution of practical design problems. An unabridged J.Ross ......

Computational Biomechanics of the Heart and Vasculature with Potential Clinical and Surgical Applications Aug 28 2019

Bioinformatics and Computational Biology Nov 11 2020 This book constitutes the refereed proceedings of the First International on Bioinformatics and Computational Biology, BICoB 2007, held in New Orleans, LA, USA, in April 2007. The 30 revised full papers presented together with 10 invited lectures were carefully reviewed and selected from 72 initial submissions. The papers address current research in the area of bioinformatics and computational biology fostering the advancement of computing techniques and their application to life sciences in topics such as genome analysis sequence analysis, phylogenetics, structural bioinformatics, analysis of high-throughput biological data, genetics and population analysis, as well as systems biology.

COMPUTATIONAL STRUCTURAL MECHANICS Oct 03 2022 This class-room tested book, representing the teaching experience of over two decades by the authors, is designed to cater to the needs of senior undergraduate and first-year postgraduate students of civil engineering for a course in Advanced Structural Analysis/Matrix Methods of Structural Analysis/Computer Methods of Structural Analysis. The book endeavours to fulfil two principal objectives. First, it acquaints students with the matrix methods of structural analysis and their underlying concepts and principles. Second, it demonstrates the development of well-structured computer programs for the analysis of structures by the matrix methods. After a thorough presentation of the mathematical tools and theory required for linear elastic analysis of structural systems, the text focuses on the flexibility and stiffness methods of analysis for computer usage. The direct stiffness method which forms the backbone of most computer programs is also discussed. Besides, the physical behaviour of structures is analyzed throughout with the help of axial thrust, shear force, bending moment and deflected shape diagrams. A large number of worked-out examples are included to amplify the concepts and to illustrate the effect of external loads, including the effect of temperature, lack of fit, and settlement of supports, etc. The CD-ROM contains many illustrative computer programs and the usage of modern packages such as Excel and Matlab. The book will also be a useful reference for practising structural engineers who wish to pursue the versatility of matrix methods as a tool for computer applications.

Bridge Engineering Handbook, Five Volume Set, Second Edition Aug 09 2020 Over 140 experts, 14 countries, and 89 chapters are represented in the second edition of the Bridge Engineering Handbook. This extensive collection provides detailed information on bridge engineering, and thoroughly explains the concepts and practical applications surrounding the subject, and also highlights bridges from around the world. Published in five books: Fundamentals, Superstructure Design, Substructure Design, Seismic Design, and Construction and Maintenance, this new edition provides numerous worked-out examples that give readers step-by-step design procedures, includes contributions by leading experts from around the world in their respective areas of bridge engineering, contains 26 completely new chapters, and updates most other chapters. It offers design concepts, specifications, and practice, and presents various types of bridges. The text includes over 2,500 tables, charts, illustrations, and photos. The book covers new, innovative and traditional methods and practices; explores rehabilitation, retrofit, and maintenance; and examines seismic design and building materials. This text is an ideal reference for practicing bridge engineers and consultants (design, construction,

maintenance), and can also be used as a reference for students in bridge engineering courses.

Handbook of Parallel Computing Jun 18 2021 The ability of parallel computing to process large data sets and handle time-consuming operations has resulted in unprecedented advances in biological and scientific computing, modeling, and simulations. Exploring these recent developments, the Handbook of Parallel Computing: Models, Algorithms, and Applications provides comprehensive coverage on a

Numerical Methods in Geotechnical Engineering IX, Volume 2 Apr 16 2021 Numerical Methods in Geotechnical Engineering IX contains 204 technical and scientific papers presented at the 9th European Conference on Numerical Methods in Geotechnical Engineering (NUMGE2018, Porto, Portugal, 25—27 June 2018). The papers cover a wide range of topics in the field of computational geotechnics, providing an overview of recent developments on scientific achievements, innovations and engineering applications related to or employing numerical methods. They deal with subjects from emerging research to engineering practice, and are grouped under the following themes: Constitutive modelling and numerical implementation Finite element, discrete element and other numerical methods. Coupling of diverse methods Reliability and probability analysis Large deformation – large strain analysis Artificial intelligence and neural networks Ground flow, thermal and coupled analysis Earthquake engineering, soil dynamics and soil-structure interactions Rock mechanics Application of numerical methods in the context of the Eurocodes Shallow and deep foundations Slopes and cuts Supported excavations and retaining walls Embankments and dams Tunnels and caverns (and pipelines) Ground improvement and reinforcement Offshore geotechnical engineering Propagation of vibrations Following the objectives of previous eight thematic conferences, (1986 Stuttgart, Germany; 1990 Santander, Spain; 1994 Manchester, United Kingdom; 1998 Udine, Italy; 2002 Paris, France; 2006 Graz, Austria; 2010 Trondheim, Norway; 2014 Delft, The Netherlands), Numerical Methods in Geotechnical Engineering IX updates the state-of-the-art regarding the application of numerical methods in geotechnics, both in a scientific perspective and in what concerns its application for solving practical boundary value problems. The book will be much of interest to engineers, academics and professionals involved or interested in Geotechnical Engineering. This is volume 2 of the NUMGE 2018 set.

Steel Framed Structures Apr 04 2020 Steel Framed Structures contains ten chapters on rigid frames, sway frames, multi-storey frames, interbraced columns and beams, elastic stability, moment-resisting connections, flexibly connected frames, portal frames, and braced arches.

Handbook of Research on Advancements in Manufacturing, Materials, and Mechanical Engineering Jun 26 2019 Production, new materials development, and mechanics are the central subjects of modern industry and advanced science. With a very broad reach across several different disciplines, selecting the most forward-thinking research to review can be a hefty task, especially for study in niche applications that receive little coverage. For those subjects, collecting the research available is of utmost importance. The Handbook of Research on Advancements in Manufacturing, Materials, and Mechanical Engineering is an essential reference source that examines emerging obstacles in these fields of engineering and the methods and tools used to find solutions. Featuring coverage of a broad range of topics including fabricating procedures, automated control, and material selection, this book is ideally designed for academics; tribology and materials researchers; mechanical, physics, and materials engineers; professionals in related industries; scientists; and students.

International Books in Print Oct 11 2020

Engineering Mechanics Statics And Dynami Apr 28 2022 Explains the fundamental concepts and principles underlying the subject, illustrates the application of numerical methods to solve engineering problems with mathematical models, and introduces students to the use of computer applications to solve problems. A continuous step-by-step build up of the subject makes the book very student-friendly. All topics and sequentially coherent subtopics are carefully organized and explained distinctly within each chapter. An abundance of solved examples is provided to illustrate all phases of the topic under consideration. All chapters include several spreadsheet problems for modeling of physical phenomena, which enable the student to obtain graphical representations of physical quantities and perform numerical analysis of problems without recourse to a high-level computer language. Adequately equipped with numerous solved problems and exercises, this book provides sufficient material for a two-semester course. The book is essentially designed for all engineering students. It would also serve as a ready reference for practicing engineers and for those preparing for competitive examinations. It includes previous years' question papers and their solutions.

Applied Mechanics Reviews May 18 2021

Proceedings of the International Conference on Numerical Methods in Engineering--Theory and Applications, NUMETA '87, Swansea, 6-10 July 1987 Sep 09 2020

Numerical Methods for Science and Engineering. -- Sep 21 2021 This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Numerical Methods in Science and Engineering A Practical Approach Jun 30 2022 During the past two decades,owing to the advent of digital computers,numerical methods of analysis have become very popular for the solution of complex problems in physical and management sciences and in engineering.As the price of hardware keeps decreasing repidly,experts predict that in the near future one may have to pay onliy for sodtware.This underscores the importance of numerical computation to the scientist and engineers

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Numerical Techniques for Engineering Analysis and Design Jan 26 2022 Numerical methods and related computer based algorithms form the logical solution for. many complex problems encountered in science and engineering. Although numerical techniques are now well established, they have continued to expand and diversify, particularly in the fields of engineering analysis and design. Various engineering departments in the University College of Swansea, in particular, Civil, Chemical, Electrical and Computer Science, have groups working in these areas. It is from this mutual interest that the NUMETA conference series was conceived with the main objective of providing a link between engineers developing new numerical techniques and those applying them in practice. Encouraged by the success of NUMETA '85, the second conference, NUMETA '87, was held at Swansea, 6-10 July 1987. Over two hundred and twenty abstracts were submitted for consideration together with a number of invited papers from experts in the field of numerical methods. The final selection of contributed and invited papers were of a high quality and have culminated in the two volumes which form these proceedings. This volume contains papers on the themes of 'Numerical Techniques for Engineering Analysis and Design' and 'Developments in Engineering Software'. Many new developments on a wide variety of topics have been reported and these proceedings contain a wealth of information and references which we believe will be of great interest to theoreticians and practising engineers alike.

Numerical Models in Geomechanics Jan 14 2021 The papers in this volume reflect the current research and advances made in the application of numerical methods in geotechnical engineering. Topics include: instabilities in soil behaviour; environmental geomechanics; and hydro-mechanical coupling in problems of engineering.

Cost Accounting Sep 29 2019 The book sets a new standard for cost accounting textbooks. It aims at equipping students with a solid grounding in the concepts of cost accounting. With rich pedagogy and an easy-to-understand approach, it meets the specific requirements of the undergraduate students of different Indian universities. This book can also be useful for the students of CA, CS, MBA and ICWA level of Indian universities.

Structural Dynamics of Earthquake Engineering Dec 25 2021 Given the risk of earthquakes in many countries, knowing how structural dynamics can be applied to earthquake engineering of structures, both in theory and practice, is a vital aspect of improving the safety of buildings and structures. It can also reduce the number of deaths and injuries and the amount of property damage. The book begins by discussing free vibration of single-degree-of-freedom (SDOF) systems, both damped and undamped, and forced vibration (harmonic force) of SDOF systems. Response to periodic dynamic loadings and impulse loads are also discussed, as are two degrees of freedom linear system response methods and free vibration of multiple degrees of freedom. Further chapters cover time history response by natural mode superposition, numerical solution methods for natural frequencies and mode shapes and differential quadrature, transformation and Finite Element methods for vibration problems. Other topics such as earthquake ground motion, response spectra and earthquake analysis of linear systems are discussed. Structural dynamics of earthquake engineering: theory and application using Mathematica and Matlab provides civil and structural engineers and students with an understanding of the dynamic response of structures to earthquakes and the common analysis techniques employed to evaluate these responses. Worked examples in Mathematica and Matlab are given. Explains the dynamic response of structures to earthquakes including periodic dynamic loadings and impulse loads Examines common analysis techniques such as natural mode superposition, the finite element method and numerical solutions Investigates this important topic in terms of both theory and practise with the inclusion of practical exercise and diagrams

Sentimental Analysis and Deep Learning Dec 13 2020 This book gathers selected papers presented at the International Conference on Sentimental Analysis and Deep Learning (ICSADL 2021), jointly organized by Tribhuvan University, Nepal; Prince of Songkla University, Thailand; and Ejesra during June, 18-19, 2021. The volume discusses state-of-the-art research works on incorporating artificial intelligence models like deep learning techniques for intelligent sentiment analysis applications. Emotions and sentiments are emerging as

the most important human factors to understand the prominent user-generated semantics and perceptions from the humongous volume of user-generated data. In this scenario, sentiment analysis emerges as a significant breakthrough technology, which can automatically analyze the human emotions in the data-driven applications. Sentiment analysis gains the ability to sense the existing voluminous unstructured data and delivers a real-time analysis to efficiently automate the business processes. Meanwhile, deep learning emerges as the revolutionary paradigm with its extensive data-driven representation learning architectures. This book discusses all theoretical aspects of sentimental analysis, deep learning and related topics.

 Structural Seismic Design Optimization and Earthquake Engineering: Formulations and Applications Dec 01 2019 Throughout the past few years, there has been extensive research done on structural design in terms of optimization methods or problem formulation. But, much of this attention has been on the linear elastic structural behavior, under static loading condition. Such a focus has left researchers scratching their heads as it has led to vulnerable structural configurations. What researchers have left out of the equation is the element of seismic loading. It is essential for researchers to take this into account in order to develop earthquake resistant real-world structures. Structural Seismic Design Optimization and Earthquake Engineering: Formulations and Applications focuses on the research around earthquake engineering, in particular, the field of implementation of optimization algorithms in earthquake engineering problems. Topics discussed within this book include, but are not limited to, simulation issues for the accurate prediction of the seismic response of structures, design optimization procedures, soft computing applications, and other important advancements in seismic analysis and design where optimization algorithms can be implemented. Readers will discover that this book provides relevant theoretical frameworks in order to enhance their learning on earthquake engineering as it deals with the latest research findings and their practical implementations, as well as new formulations and solutions.

 Design and Modeling of Mechanical Systems - IV Oct 30 2019 This book offers a collection of original peer-reviewed contributions presented at the 8th International Congress on Design and Modeling of Mechanical Systems (CMSM'2019), held in Hammamet, Tunisia, from the 18th to the 20th of March 2019. It reports on research, innovative industrial applications and case studies concerning mechanical systems and related to modeling and analysis of materials and structures, multiphysics methods, nonlinear dynamics, fluid structure interaction and vibroacoustics, design and manufacturing engineering. Continuing on the tradition of the previous editions, these proceedings offers a broad overview of the state-of-the art in the field and a useful resource for academic and industry specialists active in the field of design and modeling of mechanical systems. CMSM'2019 was jointly organized by two leading Tunisian research laboratories: the Mechanical Engineering Laboratory of the National Engineering School of Monastir, University of Monastir and the Mechanical, Modeling and Manufacturing Laboratory of the National Engineering School of Sfax, University of Sfax.

 Issues in Structural and Materials Engineering: 2011 Edition Mar 04 2020 Issues in Structural and Materials Engineering: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Structural and Materials Engineering. The editors have built Issues in Structural and Materials Engineering: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Structural and Materials Engineering in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Structural and Materials Engineering: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

 Finite Element Analysis in Engineering Design May 30 2022 During the past three decades,the finite element method of analysis has rapidly become a very popular tool for computer solution of complex problems in engineering.With the advent of digital computers the finite element method has greatly enlarged the range of engineering problems.The finite element method is very sucessful because of its generality,the formulation of the problem in variational or weighted residual form,discretization of the formulation and the solution of resulting finite element equations.The book is divided into sixteen chapters.In the first chapter,the historical background and the fundamentals of solid mechanics are discussed.The second chapter covers the discrete finite element method or direct stiffness approach to solve trusses which is quite often discussed in computer statics course.These structural concepts are necessary for the basic understanding of the method to a continuum.

 Scientific and Technical Aerospace Reports Jul 28 2019 Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

 Quantum Mechanics II Nov 23 2021 Quantum Mechanics II: Advanced Topics offers a comprehensive exploration of the state-of-the-art in various advanced topics of current research interest. A follow-up to the authors' introductory book Quantum Mechanics I: The Fundamentals, this book expounds basic principles, theoretical treatment, case studies, worked-out examples and applications of advanced topics including quantum technologies. A thoroughly revised and updated this unique volume presents an in-depth and up-to-date progress on the growing topics including latest achievements on quantum technology. In the second edition six new chapters are included and the other ten chapters are extensively revised. Features Covers classical and quantum field theories, path integral formalism and supersymmetric quantum mechanics. Highlights coherent and squeezed states, Berry's phase, Aharonov—Bohm effect and Wigner function. Explores salient features of quantum entanglement and quantum cryptography. Presents basic concepts of quantum computers and the features of no-cloning theorem and quantum cloning machines. Describes the

theory and techniques of quantum tomography, quantum simulation and quantum error correction. Introduces other novel topics including quantum versions of theory of gravity, cosmology, Zeno effect, teleportation, games, chaos and steering. Outlines the quantum technologies of ghost imaging, detection of weak amplitudes and displacements, lithography, metrology, teleportation of optical images, sensors, batteries and internet. Contains several worked-out problems and exercises in each chapter. Quantum Mechanics II: Advanced Topics addresses various currently emerging exciting topics of quantum mechanics. It emphasizes the fundamentals behind the latest cutting-edge developments to help explain the motivation for deeper exploration. The book is a valuable resource for graduate students in physics and engineering wishing to pursue research in quantum mechanics.