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Topology Topology Fixed Point Theory Canadian Journal of Mathematics The Infinite-Dimensional Topology of Function Spaces Topology Modern General Topology Topics on Continua Topologies and Uniformities Topological and Uniform Spaces Manifolds and Differential Geometry Differentiable Manifolds Pseudocompact Topological Spaces Canadian Journal of Mathematics 位相空間論(数学クラシックス) Model Categories and Their Localizations Mathematical Analysis Elements of Topological Dynamics Handbook of Analysis and Its Foundations Banach Space Theory Using the Mathematics Literature Combinatorial And Toric Homotopy: Introductory Lectures Research Topics in Analysis, Volume I Bounded Cohomology of Discrete Groups Generic Coarse Geometry of Leaves An Introduction to Symbolic Dynamics and Coding Ends of Complexes Differential Manifolds Lusternik-Schnirelmann Category Official Gazette Atti Della Fondazione Giorgio Ronchi Anno LXII N.6 Continuous Lattices and Their Applications Fixed Point Theory Fibrations and Bundles with Hilbert Cube Manifold Fibers Handbook of the Geometry of Banach Spaces Topological Algebras and Applications An Introduction to Differential Manifolds Fixed Point Theory Foliations Foliations I

Topology 1966 the theory of fixed points is one of the most powerful tools of modern mathematics this book contains a clear detailed and well organized presentation of the major results together with an entertaining set of historical notes and an extensive bibliography describing further developments and applications from the reviews i recommend this excellent volume on fixed point theory to anyone interested in this core subject of nonlinear analysis mathematical reviews

Topology 1989 in this book we study function spaces of low borel complexity techniques from general topology infinite dimensional topology functional analysis and descriptive set theory are primarily used for the study of these spaces the mix of methods from several disciplines makes the subject particularly interesting among other things a complete and self contained proof of the dobrowolski marciszewski mogilski theorem that all function spaces of low borel complexity are topologically homeomorphic is presented in order to understand what is going on a solid background in infinite dimensional topology is needed and for that a fair amount of knowledge of dimension theory as well as anr theory is needed the necessary material was partially covered in our previous book infinite dimensional topology prerequisites and introduction a selection of what was done there can be found here as well but completely revised and at many places expanded with recent results a scenic route has been chosen towards the dobrowolski marciszewski mogilski theorem linking the results needed for its proof to interesting recent research developments in dimension theory and infinite dimensional topology the first five chapters of this book are intended as a text for graduate courses in topology for a course in dimension theory chapters 2 and 3 and part of chapter 1 should be covered for a course in infinite dimensional topology chapters 1 4 and 5 in chapter 6 which deals with function spaces recent research results are discussed it could also be used for a graduate course in topology but its flavor is more that of a research monograph than of a textbook it is therefore more suitable as a text for a research seminar the book consequently has the character of both textbook and a research monograph in chapters 1 through 5 unless stated otherwise all spaces under discussion are separable and metrizable in chapter 6 results for more general classes of spaces are presented in appendix a for easy reference and some basic facts that are important in the book have been collected the book is not intended as a basis for a course in topology its purpose is to collect knowledge about general topology the exercises in the book serve three purposes 1 to test the reader s understanding of the material 2 to supply proofs of statements that are used in the text but are not proven there 3 to provide additional information not covered by the text solutions to selected exercises have been included in appendix b these exercises are important or difficult

Fixed Point Theory 2013-03-09 about the book this book provides exposition of the subject both in its general and algebraic aspects it deals with the notions of topological spaces compactness connectedness completeness including metrizability and compactification algebraic aspec

Canadian Journal of Mathematics 1995-12 this classic work has been fundamentally revised to take account of recent developments in general topology the first three chapters remain unchanged except for numerous minor corrections and additional exercises but chapters iv vii and the new chapter viii cover the rapid changes that have occurred since 1968 when the first edition appeared the reader will find many new topics in chapters iv viii e g theory of wallmann shanin s compactification realcompact space various generalizations of paracompactness generalized metric spaces dugundji type extension theory linearly ordered topological space theory of cardinal functions dyadic space etc that were in the author s opinion mostly special or isolated topics some twenty years ago but now settle down into the mainstream of general topology

The Infinite-Dimensional Topology of Function Spaces 2002-05-24 this book is a significant companion text to the existing literature on continuum theory it opens with background information of continuum theory so often missing from the preceding publications and then explores the following topics inverse limits the jones set function t homogenous continua and n fold hyperspaces in this new edition of the book the author builds on the aforementioned topics including the unprecedented presentation of n fold hyperspace suspensions and induced maps on n fold hyperspaces the first edition of the book has had a remarkable impact on the continuum theory community after twelve years this updated version will also prove to be an excellent resource within the field of topology

Topology 2007 a substantially revised edition of the utm volume with a view to making the book far more accessible to undergraduates it contains a larger number of detailed explanations and exercises together with fully worked solutions to the essential problems and a new chapter on the historical aspects

Modern General Topology 1985-11-01 this book is based on lectures i have given to undergraduate and graduate audiences at oxford and elsewhere over the years my aim has been to provide an outline of both the topological theory and the uniform theory with an emphasis on the relation between the two although i hope that the prospec tive specialist may find it useful as an introduction it is the non specialist i have had more in mind in selecting the contents thus i have tended to avoid the ingenious examples and counterexamples which often occupy much of the space in books on general topology and i have tried to keep the number of definitions down to the essential minimum there are no particular pre requisites but i have worked on the assumption that a potential reader will already have had some experience of working with sets and functions and will also be familiar with the basic concepts of algebra and analysis there are a number of fine books on general topology some of which i have listed in the select bibliography at the end of this volume of course i have benefited greatly from this previous work in writing my own account undoubtedly the strongest influence is that of bourbaki s topologie generale 2 the definitive treatment of the subject which first appeared over a genera tion ago

Topics on Continua 2018-07-24 differential geometry began as the study of curves and surfaces using the methods of calculus in time the notions of curve and surface were generalized along with associated notions such as length volume and curvature at the same time the topic has become closely allied with developments in topology the basic object is a smooth manifold to which some extra structure has been attached such as a riemannian metric a symplectic form a distinguished group of symmetries or a connection on the tangent bundle this book is a graduate level introduction to the tools and structures of modern differential geometry included are the topics usually found in a course on differentiable manifolds such as vector bundles tensors differential forms de rham cohomology the

frobenius theorem and basic lie group theory the book also contains material on the general theory of connections on vector bundles and an in depth chapter on semi riemannian geometry that covers basic material about riemannian manifolds and lorentz manifolds an unusual feature of the book is the inclusion of an early chapter on the differential geometry of hypersurfaces in euclidean space there is also a section that derives the exterior calculus version of maxwell s equations the first chapters of the book are suitable for a one semester course on manifolds there is more than enough material for a year long course on manifolds and geometry

Topologies and Uniformities 2013-06-29 this book is based on the full year ph d qualifying course on differentiable manifolds global calculus differential geometry and related topics given by the author at washington university several times over a twenty year period it is addressed primarily to second year graduate students and well prepared first year students presupposed is a good grounding in general topology and modern algebra especially linear algebra and the analogous theory of modules over a commutative unitary ring although billed as a first course the book is not intended to be an overly sketchy introduction mastery of this material should prepare the student for advanced topics courses and seminars in differen tial topology and geometry there are certain basic themes of which the reader should be aware the first concerns the role of differentiation as a process of linear approximation of non linear problems the well understood methods of linear algebra are then applied to the resulting linear problem and where possible the results are reinterpreted in terms of the original nonlinear problem the process of solving differential equations i e integration is the reverse of differentiation it reassembles an infinite array of linear approximations result ing from differentiation into the original nonlinear data this is the principal tool for the reinterpretation of the linear algebra results referred to above

Topological and Uniform Spaces 2012-12-06 this book intended for postgraduate students and researchers presents many results of historical importance on pseudocompact spaces in 1948 e hewitt introduced the concept of pseudocompactness which generalizes a property of compact subsets of the real line a topological space is pseudocompact if the range of any real valued continuous function defined on the space is a bounded subset of the real line pseudocompact spaces constitute a natural and fundamental class of objects in general topology and research into their properties has important repercussions in diverse branches of mathematics such as functional analysis dynamical systems set theory and topological algebraic structures the collection of authors of this volume include pioneers in their fields who have written a comprehensive explanation on this subject in addition the text examines new lines of research that have been at the forefront of mathematics there is as yet no text that systematically compiles and develops the extensive theory of pseudocompact spaces making this book an essential asset for anyone in the field of topology

Manifolds and Differential Geometry 2022-03-08 the aim of this book is to explain modern homotopy theory in a manner accessible to graduate students yet structured so that experts can skip over numerous linear developments to quickly reach the topics of their interest homotopy theory arises from choosing a class of maps called weak equivalences and then passing to the homotopy category by localizing with respect to the weak equivalences i e by creating a new category in which the weak equivalences are isomorphisms quillen defined a model category to be a category together with a class of weak equivalences and additional structure useful for describing the homotopy category in terms of the original category this allows you to make constructions analogous to those used to study the homotopy theory of topological spaces a model category has a class of maps called weak equivalences plus two other classes of maps called cofibrations and fibrations quillen s axioms ensure that the homotopy category exists and that the cofibrations and fibrations have extension and lifting properties similar to those of cofibration and fibration maps of topological spaces during the past several decades the language of model categories has become standard in many areas of algebraic topology and it is increasingly being used in other fields where homotopy theoretic ideas are becoming important including modern algebraic k theory and algebraic geometry all these subjects and more are discussed in the book beginning with the basic definitions and giving complete arguments in order to make the motivations and proofs accessible to the novice the book is intended for graduate students and research mathematicians working in homotopy theory and related areas

Differentiable Manifolds 2013-04-17 examines linear structures the topology of metric spaces and continuity in infinite dimensions with detailed coverage at the graduate level includes applications to geometry and differential equations numerous beautiful illustrations examples exercises historical notes and comprehensive index may be used in graduate seminars and courses or as a reference text by mathematicians physicists and engineers

Pseudocompact Topological Spaces 2018-07-19 this book is designed as an introduction into what i call abstract topological dynamics to the study of topological transformation groups with respect to problems that can be traced back to the qualitative theory of differential equa is in the tradition of the books gh and ew the title tions so this book elements rather than introduction does not mean that this book should be compared either in scope or in intended impact with the ele ments of euclid or bourbaki instead it reflects the choice and organisation of the material in this book elementary and basic but sufficient to understand recent research papers in this field there are still many challenging prob lems waiting for a solution and especially among general topologists there is a growing interest in this direction however the technical inaccessability of many research papers makes it almost impossible for an outsider to under stand what is going on to a large extent this inaccessability is caused by the lack of a good and systematic exposition of the fundamental methods and techniques of abstract to this book is an attempt to fill this gap the guiding principle for the organization of the material in this book has been the exposition of methods and techniques rather than a discussion of the leading problems and their solutions though the latter are certainly not neglected they are used as a motivation wherever possible

Canadian Journal of Mathematics 1974-08 handbook of analysis and its foundations is a self contained and unified handbook on mathematical analysis and its foundations intended as a self study guide for advanced undergraduates and beginning graduatestudents in mathematics and a reference for more advanced mathematicians this highly readable book provides broader coverage than competing texts in the area handbook of analysis and its foundations provides an introduction to a wide range of topics including algebra topology normed spaces integration theory topological vector spaces and differential equations the author effectively demonstrates

the relationships between these topics and includes a few chapters on set theory and logic to explain the lack of examples for classical pathological objects whose existence proofs are not constructive more complete than any other book on the subject students will find this to be an invaluable handbook covers some hard to find results including bessagas and meyers converses of the contraction fixed point theorem redefinition of subnets by aarnes and andenaes ghermans characterization of topological convergences neumanns nonlinear closed graph theorem van maarens geometry free version of sperners lemma includes a few advanced topics in functional analysis features all areas of the foundations of analysis except geometry combines material usually found in many different sources making this unified treatment more convenient for the user has its own webpage math vanderbilt edu バナッハ(バナッハの不動点定理) 2005 banach spaces provide a framework for linear and nonlinear functional analysis operator theory abstract analysis probability optimization and other branches of mathematics this book introduces the reader to linear functional analysis and to related parts of infinite dimensional banach space theory key features develops classical theory including weak topologies locally convex space schauder bases and compact operator theory covers radon nikodým property finite dimensional spaces and local theory on tensor products contains sections on uniform homeomorphisms and non linear theory rosenthal s l1 theorem fixed points and more includes information about further topics and directions of research and some open problems at the end of each chapter provides numerous exercises for practice the text is suitable for graduate courses or for independent study prerequisites include basic courses in calculus and linear researchers in functional analysis will also benefit for this book as it can serve as a reference book

Model Categories and Their Localizations 2003 this reference serves as a reader friendly guide to every basic tool and skill required in the mathematical library and helps mathematicians find resources in any format in the mathematics literature it lists a wide range of standard texts journals review articles newsgroups and internet and database tools for every major subfield in mathemati

Mathematical Analysis 2007-09-04 this volume consists of introductory lectures on the topics in the new and rapidly developing area of toric homotopy theory and its applications to the current research in configuration spaces and braids as well as to more applicable mathematics such as fr codes and robot motion planning the book starts intertwining homotopy theoretical and combinatorial ideas within the remits of toric topology and illustrates an attempt to classify in a combinatorial way polytopes known as fullerenes which are important objects in quantum physics quantum chemistry and nanotechnology toric homotopy theory is then introduced as a further development of toric topology which describes properties of davis januszkiewicz spaces moment angle complexes and their generalizations to polyhedral products the book also displays the current research on configuration spaces braids the theory of limits over the category of presentations and the theory of fr codes as an application to robotics the book surveys topological problems relevant to the motion planning problem of robotics and includes new results and constructions which enrich the emerging area of topological robotics the book is at research entry level addressing the core components in homotopy theory and their important applications in the sciences and thus suitable for advanced undergraduate and graduate students contents toric homotopy theory stephen theriault fullerenes polytopes and toric topology victor m buchstaber and nikolay yu erokhovets around braids vladimir vershinin higher limits homology theories and fr codes sergei o ivanov and roman mikhailov configuration spaces and robot motion planning algorithms michael farber cellular stratified spaces dai tamaki readership advanced undergraduate and graduate students as well as researchers interested in homotopy theory and its applications in the sciences keywords toric topology toric homotopy configuration space stratified spaces braid group fullerene polytope virtual braid group thompson group robotics motion planningreview key features the first book in the area of toric homotopy theory consisting of introductory lectures on the topics and their applications to fr codes and robot motion planning

Elements of Topological Dynamics 2013-04-17 this book which is the first of two volumes presents in a unique way some of the most relevant research tools of modern analysis this work empowers young researchers with all the necessary techniques to explore the various subfields of this broad subject and introduces relevant frameworks where these tools can be immediately deployed volume i starts with the foundations of modern analysis the first three chapters are devoted to topology measure theory and functional analysis chapter 4 offers a comprehensive analysis of the main function spaces while chapter 5 covers more concrete subjects like multivariate analysis which are closely related to applications and more difficult to find in compact form chapter 6 deals with smooth and non smooth calculus of functions chapter 7 introduces certain important classes of nonlinear operators and chapter 8 complements the previous three chapters with topics of variational analysis each chapter of this volume finishes with a list of problems handy for understanding and self study and historical notes that give the reader a more vivid picture of how the theory developed volume ii consists of various applications using the tools and techniques developed in this volume by offering a clear and wide picture of the tools and applications of modern analysis this work can be of great benefit not only to mature graduate students seeking topics for research but also to experienced researchers with an interest in this vast and rich field of mathematics

Handbook of Analysis and Its Foundations 1996-10-24 the theory of bounded cohomology introduced by gromov in the late 1980s has had powerful applications in geometric group theory and the geometry and topology of manifolds and has been the topic of active research continuing to this day this monograph provides a unified self contained introduction to the theory and its applications making it accessible to a student who has completed a first course in algebraic topology and manifold theory the book can be used as a source for research projects for master s students as a thorough introduction to the field for graduate students and as a valuable landmark text for researchers providing both the details of the theory of bounded cohomology and links of the theory to other closely related areas the first part of the book is devoted to settling the fundamental definitions of the theory and to proving some of the by now classical results on low dimensional bounded cohomology and on bounded cohomology of topological spaces the second part describes applications of the theory to the study of the simplicial volume of manifolds to the classification of circle actions to the analysis of maximal representations of surface groups and to the study of flat vector bundles with a particular emphasis on the possible use of bounded cohomology in relation

with the chern conjecture each chapter ends with a discussion of further reading that puts the presented results in a broader context

Banach Space Theory 2011-02-04 this book provides a detailed introduction to the coarse quasi isometry of leaves of a foliated space and describes the cases where the generic leaves have the same quasi isometric invariants every leaf of a compact foliated space has an induced coarse quasi isometry type represented by the coarse metric defined by the length of plaque chains given by any finite foliated atlas when there are dense leaves either all dense leaves without holonomy are uniformly coarsely quasi isometric to each other or else every leaf is coarsely quasi isometric to just meagerly many other leaves moreover if all leaves are dense the first alternative is characterized by a condition on the leaves called coarse quasi symmetry similar results are proved for more specific coarse invariants like growth type asymptotic dimension and amenability the higson corona of the leaves is also studied all the results are richly illustrated with examples the book is primarily aimed at researchers on foliated spaces more generally specialists in geometric analysis topological dynamics or metric geometry may also benefit from it

Using the Mathematics Literature 2004-05-25 elementary introduction to symbolic dynamics updated to describe the main advances in the subject since the original publication in 1995

Combinatorial And Toric Homotopy: Introductory Lectures 2017-10-20 a systematic exposition of the theory and practice of ends of manifolds and cw complexes not previously available

Research Topics in Analysis, Volume I 2022-11-29 differential manifolds is a modern graduate level introduction to the important field of differential topology the concepts of differential topology lie at the heart of many mathematical disciplines such as differential geometry and the theory of lie groups the book introduces both the h cobordism theorem and the classification of differential structures on spheres the presentation of a number of topics in a clear and simple fashion make this book an outstanding choice for a graduate course in differential topology as well as for individual study presents the study and classification of smooth structures on manifolds it begins with the elements of theory and concludes with an introduction to the method of surgery chapters 1 5 contain a detailed presentation of the foundations of differential topology no knowledge of algebraic topology is required for this self contained section chapters 6 8 begin by explaining the joining of manifolds along submanifolds and ends with the proof of the h cobordism theory chapter 9 presents the pontriagrin construction the principle link between differential topology and homotopy theory the final chapter introduces the method of surgery and applies it to the classification of smooth structures on spheres

Bounded Cohomology of Discrete Groups 2017-11-21 lusternik schnirelmann category is like a picasso painting looking at category from different perspectives produces completely different impressions of category s beauty and applicability from the introduction lusternik schnirelmann category is a subject with ties to both algebraic topology and dynamical systems the authors take ls category as the central theme and then develop topics in topology and dynamics around it included are exercises and many examples the book presents the material in a rich expository style the book provides a unified approach to ls category including foundational material on homotopy theoretic aspects the lusternik schnirelmann theorem on critical points and more advanced topics such as hopf invariants the construction of functions with few critical points connections with symplectic geometry the complexity of algorithms and category of 3 manifolds this is the first book to synthesize these topics it takes readers from the very basics of the subject to the state of the art prerequisites are few two semesters of algebraic topology and perhaps differential topology it is suitable for graduate students and researchers interested

Generic Coarse Geometry of Leaves 2018-07-28 this book contains articles on the notion of a continuous lattice which has its roots in dana scott s work on a mathematical theory of computation presented at a conference on categorical and topological aspects of continuous lattices held in 1982

An Introduction to Symbolic Dynamics and Coding 2021-01-21 the handbook presents an overview of most aspects of modern banach space theory and its applications the up to date surveys authored by leading research workers in the area are written to be accessible to a wide audience in addition to presenting the state of the art of banach space theory the surveys discuss the relation of the subject with such areas as harmonic analysis complex analysis classical convexity probability theory operator theory combinatorics logic geometric measure theory and partial differential equations the handbook begins with a chapter on basic concepts in banach space theory which contains all the background needed for reading any other chapter in the handbook each of the twenty one articles in this volume after the basic concepts chapter is devoted to one specific direction of banach space theory or its applications each article contains a motivated introduction as well as an exposition of the main results methods and open problems in its specific direction most have an extensive bibliography many articles contain new proofs of known results as well as expositions of proofs which are hard to locate in the literature or are only outlined in the original research papers as well as being valuable to experienced researchers in banach space theory the handbook should be an outstanding source for inspiration and information to graduate students and beginning researchers the handbook will be useful for mathematicians who want to get an idea of the various developments in banach space theory

Ends of Complexes 1996-08-28 the fifth international conference on topological algebras and applications was held in athens greece from june 27th to july 1st of 2005 the main topic of the conference was general theory of topological algebras and its various applications with emphasis on the non normed case in addition to the study of the internal structure of non normed and even non locally convex topological algebras there are applications to other branches of mathematics such as differential geometry of smooth manifolds and mathematical physics such as quantum relativity and quantum cosmology operator theory of unbounded operators and related non normed topological algebras are intensively studied here other topics presented in this volume are topological homological algebra topological algebraic geometry sheaf theory and k theory

Differential Manifolds 1992-12-03 this book is an introduction to differential manifolds it gives solid preliminaries for more advanced topics riemannian manifolds differential topology lie theory it presupposes little background the reader is only expected to master basic differential calculus and a little point set topology the book covers the main

topics of differential geometry manifolds tangent space vector fields differential forms lie groups and a few more sophisticated topics such as de rham cohomology degree theory and the gauss bonnet theorem for surfaces its ambition is to give solid foundations in particular the introduction of abstract notions such as manifolds or differential forms is motivated via questions and examples from mathematics or theoretical physics more than 150 exercises some of them easy and classical some others more sophisticated will help the beginner as well as the more expert reader solutions are provided for most of them the book should be of interest to various readers undergraduate and graduate students for a first contact to differential manifolds mathematicians from other fields and physicists who wish to acquire some feeling about this beautiful theory the original french text introduction aux variétés différentielles has been a best seller in its category in france for many years jacques lafontaine was successively assistant professor at paris diderot university and professor at the university of montpellier where he is presently emeritus his main research interests are riemannian and pseudo riemannian geometry including some aspects of mathematical relativity besides his personal research articles he was involved in several textbooks and research monographs

Lusternik-Schnirelmann Category 2003 approach your problems from the right it isn t that they can t see the solution it end and begin with the answers then is that they can t see the problem one day perhaps you will find the final g k chesterton the scandal of father question brown the point of a pin the hermit clad in crane feathers in r van gulik s the chinese maze murders growing specialization and diversification have brought a host of mono graphs and textbooks on increasingly specialized topics however the tree of knowledge of mathematics and related fields does not grow only by putting forth new branches it also happens quite often in fact that branches which were thought to be completely disparate are suddenly seen to be related further the kind and level of sophistication of mathematics applied in various sciences has changed drastically in recent years measure theory is used non trivially in regional and theoretical economics algebraic geometry interacts with physics the minkowsky lemma coding theory and the structure of water meet one another in packing and covering theory quantum fields crystal defects and mathematical programming profit from homotopy theory lie algebras are relevant to filtering and prediction and electrical engineering can use stein spaces

Official Gazette 2011 the first of two volumes on the qualitative theory of foliations this comprehensive work has something to offer to a broad spectrum of readers from beginners to advanced students and professional researchers packed with a wealth of illustrations and copious examples at varying degrees of difficulty this highly accessible text provides the first full treatment in the literature of the theory of levels for foliated manifolds of codimension one it would make an elegant supplementary text for a topics course at the advanced graduate level

Atti Della Fondazione Giorgio Ronchi Anno LXII N.6 2020-12-17

Continuous Lattices and Their Applications 2014-01-15

Fixed Point Theory 1989

Fibrations and Bundles with Hilbert Cube Manifold Fibers 2001

Handbook of the Geometry of Banach Spaces 2007

Topological Algebras and Applications 2015-07-29

An Introduction to Differential Manifolds 2001-11-30

Fixed Point Theory 2000

Foliations 2000

Foliations I