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KEY=MARCH2014 - XIMENA PORTER

CDS 12 Years Topic-wise Solved Papers Mathematics, English & General Knowledge (2007-2018) - 3rd Edition

Disha Publications The thoroughly revised & updated 3rd edition of 'CDS 12 Years Mathematics, English & General Knowledge Topic-wise Solved Papers (2007 Feb - 2018 Feb)' consists of last 12 years (both Feb and November papers) from 2007 Paper 1 - 2018 Paper 1 solved papers of Elementary Mathematics, English and General Knowledge distributed into 42 topics. In all there are 23 Question papers from 2007 to 2018 - I which have been divided into the above discussed 42 topics. Practicing these questions, aspirants will come to know about the pattern and toughness of the questions asked in the examination. All the papers are divided into following sections: Section I - Mathematics which is distributed into 25 topics Section II - English is divided into 8 topics Section III - General Knowledge is divided into 9 topics The book contains 6460+ MILESTONE MCQ's from the above 23 Question papers. The strength of the book lies in the originality of its question papers and Errorless Solutions. The solution of each and every question is provided in detail (step-by-step) so as to provide 100% concept clarity to the students.

Nonlinear Stability of Ekman Boundary Layers in Rotating Stratified Fluids

American Mathematical Soc. A stationary solution of the rotating Navier-Stokes equations with a boundary condition is called an Ekman boundary layer. This book constructs stationary solutions of the rotating Navier-Stokes-Boussinesq equations with stratification effects in the case when the rotating axis is not necessarily perpendicular to the horizon. The author calls such stationary solutions Ekman layers. This book shows the existence of a weak solution to an Ekman perturbed system, which satisfies the strong energy inequality. Moreover, the author discusses the uniqueness of weak solutions and computes the decay rate of weak solutions with respect to time under some assumptions on the Ekman layers and the physical parameters. The author also shows that there exists a unique global-in-time strong solution of the perturbed system when the initial datum is sufficiently small. Comparing a weak solution satisfying the strong energy inequality with the strong solution implies that the weak solution is smooth with respect to time when time is sufficiently large.

Relative Equilibria in the 3-Dimensional Curved n-Body Problem

American Mathematical Soc.

Operator Theory, Operator Algebras, and Applications

American Mathematical Soc.

Near Soliton Evolution for Equivariant Schrödinger Maps in Two Spatial Dimensions Ioan Bejenaru, University of California, San Diego, La Jolla, CA, and Daniel Tataru, University of California, Berkeley, Berkeley, CA

American Mathematical Soc. The authors consider the Schrödinger Map equation in 2+1 dimensions, with values into \mathbb{S}^2 . This admits a lowest energy steady state Q , namely the stereographic projection, which extends to a two dimensional family of steady states by scaling and rotation. The authors prove that Q is unstable in the energy

space \dot{H}^1 . However, in the process of proving this they also show that within the equivariant class Q is stable in a stronger topology $X \subset \dot{H}^1$.

Spectra of Symmetrized Shuffling Operators

American Mathematical Soc. For a finite real reflection group W and a W -orbit \mathcal{O} of flats in its reflection arrangement--or equivalently a conjugacy class of its parabolic subgroups--the authors introduce a statistic $\text{noninv}_{\mathcal{O}}(w)$ on w in W that counts the number of " \mathcal{O} -noninversions" of w . This generalizes the classical (non-)inversion statistic for permutations w in the symmetric group \mathfrak{S}_n . The authors then study the operator $\nu_{\mathcal{O}}$ of right-multiplication within the group algebra $\mathbb{C}[W]$ by the element that has $\text{noninv}_{\mathcal{O}}(w)$ as its coefficient on w .

Generalized Descriptive Set Theory and Classification Theory

American Mathematical Soc. Descriptive set theory is mainly concerned with studying subsets of the space of all countable binary sequences. In this paper the authors study the generalization where countable is replaced by uncountable. They explore properties of generalized Baire and Cantor spaces, equivalence relations and their Borel reducibility. The study shows that the descriptive set theory looks very different in this generalized setting compared to the classical, countable case. They also draw the connection between the stability theoretic complexity of first-order theories and the descriptive set theoretic complexity of their isomorphism relations. The authors' results suggest that Borel reducibility on uncountable structures is a model theoretically natural way to compare the complexity of isomorphism relations.

A Quantum Kirwan Map: Bubbling and Fredholm Theory for Symplectic Vortices over the Plane

American Mathematical Soc. Consider a Hamiltonian action of a compact connected Lie group on a symplectic manifold. Conjecturally, under suitable assumptions there exists a morphism of cohomological field theories from the equivariant Gromov-Witten theory of to the Gromov-Witten theory of the symplectic quotient. The morphism should be a deformation of the Kirwan map. The idea, due to D. A. Salamon, is to define such a deformation by counting gauge equivalence classes of symplectic vortices over the complex plane. The present memoir is part of a project whose goal is to make this definition rigorous. Its main results deal with the symplectically aspherical case.

Endoscopic Classification of Representations of Quasi-Split Unitary Groups

American Mathematical Soc. In this paper the author establishes the endoscopic classification of tempered representations of quasi-split unitary groups over local fields, and the endoscopic classification of the discrete automorphic spectrum of quasi-split unitary groups over global number fields. The method is analogous to the work of Arthur on orthogonal and symplectic groups, based on the theory of endoscopy and the comparison of trace formulas on unitary groups and general linear groups.

A Power Law of Order 1/4 for Critical Mean Field Swendsen-Wang Dynamics

American Mathematical Soc. Introduction Statement of the results Mixing time preliminaries Outline of the proof of Theorem 2.1 Random graph estimates Supercritical case Subcritical case Critical Case Fast mixing of the Swendsen-Wang process on trees Acknowledgements Bibliography

Mathematical Study of Degenerate Boundary Layers: A Large Scale Ocean Circulation Problem

American Mathematical Soc.

Quasi-Linear Perturbations of Hamiltonian Klein-Gordon Equations on Spheres

American Mathematical Soc. The Hamiltonian $\int_X (|\partial_t u|^2 + |\nabla u|^2 + m^2 |u|^2) dx$, defined on functions on $\mathbb{R} \times X$, where X is a compact manifold, has critical points which are solutions of the linear Klein-Gordon equation. The author considers perturbations of this Hamiltonian, given by polynomial expressions depending on first order derivatives of u . The associated PDE is then a quasi-linear Klein-Gordon equation. The author shows that, when X is the sphere, and when the mass parameter m is outside an exceptional subset of zero measure, smooth Cauchy data of small size ϵ give rise to almost global solutions, i.e. solutions defined on a time interval of length $cN\epsilon^{-N}$ for any N . Previous results were limited either to the semi-linear case (when the perturbation of the Hamiltonian depends only on u) or to the one dimensional problem. The proof is based on a quasi-linear version of the Birkhoff normal forms method, relying on convenient generalizations of para-differential calculus.

Study Guide for CTET Paper 2 (Class 6 - 8 Teachers) Mathematics/ Science with Past Questions

Disha Publications

Induction, Bounding, Weak Combinatorial Principles, and the Homogeneous Model Theorem

American Mathematical Soc. Goncharov and Peretyat'kin independently gave necessary and sufficient conditions for when a set of types of a complete theory is the type spectrum of some homogeneous model of . Their result can be stated as a principle of second order arithmetic, which is called the Homogeneous Model Theorem (HMT), and analyzed from the points of view of computability theory and reverse mathematics. Previous computability theoretic results by Lange suggested a close connection between HMT and the Atomic Model Theorem (AMT), which states that every complete atomic theory has an atomic model. The authors show that HMT and AMT are indeed equivalent in the sense of reverse mathematics, as well as in a strong computability theoretic sense and do the same for an analogous result of Peretyat'kin giving necessary and sufficient conditions for when a set of types is the type spectrum of some model.

Failure Up Close

What Happens, Why It Happens, and What We Can Learn from It

Rowman & Littlefield This book engages a select group of scholars from across the ideological spectrum to examine particular education reform efforts of recent years that have not succeeded and offer lessons for school and system improvement that can be learned from them.

Evidence, Politics, and Education Policy

Harvard Education Press In *Evidence, Politics, and Education Policy*, political scientists Lorraine M. McDonnell and M. Stephen Weatherford provide an original analysis of evidence use in education policymaking to help scholars and advocates shape policy more effectively. The book shows how multiple types of evidence are combined as elected officials and their staffs work with researchers, advocates, policy entrepreneurs, and intermediary organizations to develop, create, and implement education policies. *Evidence, Politics, and Education Policy* offers an in-depth understanding of the political environment in which evidence is solicited and used. Two key case studies inform the book's findings. The primary case—a major, multimethod study—examines the development and early implementation of the Common Core State Standards at the national level and in four states: California, Indiana, Massachusetts, and Tennessee. A comparative case analyzes the evidence used in Congressional hearings over the twenty-year history of the Children's Health Insurance Program. Together, the two cases illustrate the conditions under which different types of evidence are used and, in particular, how federalism, the complexity of the policy problem, and the policy's maturity shape evidence use. McDonnell and Weatherford focus on three leverage points for strengthening the use of research evidence in education policy: integrating research findings with value-based policy ideas; designing policies with incentives for research use built into their rules and organizational structures; and training policy analysts to promote the use of research in policymaking venues.

Virtual Fundamental Cycles in Symplectic Topology

American Mathematical Soc. The method of using the moduli space of pseudo-holomorphic curves on a symplectic manifold was introduced by Mikhail Gromov in 1985. From the appearance of Gromov's original paper until today this approach has been the most important tool in global symplectic geometry. To produce numerical invariants of these manifolds using this method requires constructing a fundamental cycle associated with moduli spaces. This volume brings together three approaches to constructing the “virtual” fundamental cycle for the moduli space of pseudo-holomorphic curves. All approaches are based on the idea of local Kuranishi charts for the moduli space. Workers in the field will get a comprehensive understanding of the details of these constructions and the assumptions under which they can be made. These techniques and results will be essential in further applications of this approach to producing invariants of symplectic manifolds.

Education and the Commercial Mindset

Harvard University Press America's commitment to public schooling once seemed unshakable. But today the movement to privatize K-12 education is stronger than ever. A veteran teacher and administrator, Samuel E. Abrams examines the rise of market forces in public education and reveals how a commercial mindset has taken over. For decades, Milton Friedman and his disciples contended that private markets could deliver better schooling than governments. In the 1990s, this belief was put to the test by Edison Schools and other for-profit educational management organizations (EMOs). Edison grew rapidly, running schools in Baltimore, Philadelphia, and many other cities across the country. Yet disappointing academic and financial outcomes soon pushed the company and its competitors to the margins. The focus of EMOs on efficiency and results nevertheless found expression in federal policy with No Child Left Behind in 2002 and Race to the Top in 2009. The new ethos also defined nonprofit charter management organizations (CMOs) like KIPP that surfaced in the wake of EMOs and flourished. But the dependence of CMOs on philanthropists, tireless teachers, and students capable of abiding by rigid expectations limits their reach. Abrams argues that while the commercial mindset sidesteps fundamental challenges, public schools should adopt lessons from the business world. Citing foreign practices, he recommends raising teacher salaries to attract and retain talent, conferring more autonomy on educators to build ownership, and employing sampling techniques rather than universal assessments to gauge student progress.

Equivalence

Elizabeth L. Scott at Berkeley

CRC Press **Equivalence: Elizabeth L. Scott at Berkeley** is the compelling story of one pioneering statistician's relentless twenty-year effort to promote the status of women in academe and science. Part biography and part microhistory, the book provides the context and background to understand Scott's masterfulness at using statistics to help solve societal problems. In addition to being one of the first researchers to work at the interface of astronomy and statistics and an early practitioner of statistics using high-speed computers, Scott worked on an impressively broad range of questions in science, from whether cloud seeding actually works to whether ozone depletion causes skin cancer. Later in her career, Scott became swept up in the academic women's movement. She used her well-developed scientific research skills together with the advocacy skills she had honed, in such activities as raising funds for Martin Luther King Jr. and keeping Free Speech Movement students out of jail, toward policy making that would improve the condition of the academic workforce for women. The book invites the reader into Scott's universe, a window of inspiration made possible by the fact that she saved and dated every piece of paper that came across her desk.

Thinking and Acting Systemically

Improving School Districts Under Pressure

This volume argues that districts are important as a lever for change given the limited success of school-by-school efforts. Policies that focus on skill development, recognize and support performance, create opportunities for collaboration, build leader capacity, and create networks of knowledge sharing hold great potential for improving districts but it will require a paradigm shift in the way we view our public school system and those who work within it - away from blame and toward complex systems change.

Hyperbolically Embedded Subgroups and Rotating Families in Groups Acting on Hyperbolic Spaces

American Mathematical Soc. **he authors introduce and study the notions of hyperbolically embedded and very rotating families of subgroups. The former notion can be thought of as a generalization of the peripheral structure of a relatively hyperbolic group, while the latter one provides a natural framework for developing a geometric version of**

small cancellation theory. Examples of such families naturally occur in groups acting on hyperbolic spaces including hyperbolic and relatively hyperbolic groups, mapping class groups, , and the Cremona group. Other examples can be found among groups acting geometrically on spaces, fundamental groups of graphs of groups, etc. The authors obtain a number of general results about rotating families and hyperbolically embedded subgroups; although their technique applies to a wide class of groups, it is capable of producing new results even for well-studied particular classes. For instance, the authors solve two open problems about mapping class groups, and obtain some results which are new even for relatively hyperbolic groups.

The Scientific Journal

Authorship and the Politics of Knowledge in the Nineteenth Century

University of Chicago Press Not since the printing press has a media object been as celebrated for its role in the advancement of knowledge as the scientific journal. From open communication to peer review, the scientific journal has long been central both to the identity of academic scientists and to the public legitimacy of scientific knowledge. But that was not always the case. At the dawn of the nineteenth century, academies and societies dominated elite study of the natural world. Journals were a relatively marginal feature of this world, and sometimes even an object of outright suspicion. The Scientific Journal tells the story of how that changed. Alex Csiszar takes readers deep into nineteenth-century London and Paris, where savants struggled to reshape scientific life in the light of rapidly changing political mores and the growing importance of the press in public life. The scientific journal did not arise as a natural solution to the problem of communicating scientific discoveries. Rather, as Csiszar shows, its dominance was a hard-won compromise born of political exigencies, shifting epistemic values, intellectual property debates, and the demands of commerce. Many of the tensions and problems that plague scholarly publishing today are rooted in these tangled beginnings. As we seek to make sense of our own moment of intense experimentation in publishing platforms, peer review, and information curation, Csiszar argues powerfully that a better understanding of the journal's past will be crucial to imagining future forms for the expression and organization of knowledge.

Non Linear Mathematics Vol. I

RWS Publications "We are surrounded and deeply involved, in the natural world, with non-linear events which are not necessarily mathematical," the authors write. "For example . . . the nonlinear problem of pedalling a bicycle up and down a hillside. On a grand scale . . . the struggle for existence between two species, one of which preys exclusively on the other." This book is 'for mathematicians and researchers who believe that "nonlinear mathematics is' the mathematics of today"; it is also for economists, engineers, operations analysts, "the reader who has been thus bemused into an artificially linear conception of the universe." Nonlinear Mathematics is the first attempt to consider the widest range of nonlinear topics found in the -scattered literature. Accessible to non-mathematics professionals as well as college seniors and graduates, it offers a discussion both particular and broad enough to stimulate research towards a unifying theory of nonlinear mathematics. Ideas are presented "according to existence and uniqueness theorems, characterization (e.g., stability and asymptotic behavior), construction of solutions, convergence, approximation and errors."

Languages in the Malaysian Education System

Monolingual strands in multilingual settings

Routledge This book provides an overview of language education in Malaysia, covering topics such as the evolution of the education system from pre-independence days to the present time, to the typology of schools, and the public philosophy behind every policy made in the teaching of languages. The book consists of chapters devoted to the teaching of languages that form separate strands but are at the same time connected to each other within the education system. These chapters discuss: Implementing the national language policy in education institutions English in language education policies and planning in Malaysia Chinese and Tamil language education in Malaysia Teaching of indigenous Malaysian languages The role of translation in education in Malaysia It also discusses the development of language which enables the national language, Malay, to fulfil its role as the main medium of education up to the tertiary level. This book will be of interest to researchers studying language planning, teacher education and the sociology of education, particularly, within the Malaysian context.

Privacy and Identity Management. Time for a

Revolution?

10th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6/SIG 9.2.2 International Summer School, Edinburgh, UK, August 16-21, 2015, Revised Selected Papers

Springer This book contains a range of keynote papers and submitted papers presented at the 10th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6/SIG 9.2.2 International Summer School, held in Edinburgh, UK, in August 2015. The 14 revised full papers included in this volume were carefully selected from a total of 43 submissions and were subject to a two-step review process. In addition, the volume contains 4 invited keynote papers. The papers cover a wide range of topics: cloud computing, privacy-enhancing technologies, accountability, measuring privacy and understanding risks, the future of privacy and data protection regulation, the US privacy perspective, privacy and security, the PRISMS Decision System, engineering privacy, cryptography, surveillance, identity management, the European General Data Protection Regulation framework, communicating privacy issues to the general population, smart technologies, technology users' privacy preferences, sensitive applications, collaboration between humans and machines, and privacy and ethics.

Applications of Polyfold Theory I: The Polyfolds of Gromov-Witten Theory

American Mathematical Soc. In this paper the authors start with the construction of the symplectic field theory (SFT). As a general theory of symplectic invariants, SFT has been outlined in Introduction to symplectic field theory (2000), by Y. Eliashberg, A. Givental and H. Hofer who have predicted its formal properties. The actual construction of SFT is a hard analytical problem which will be overcome by means of the polyfold theory due to the present authors. The current paper addresses a significant amount of the arising issues and the general theory will be completed in part II of this paper. To illustrate the polyfold theory the authors use the results of the present paper to describe an alternative construction of the Gromov-Witten invariants for general compact symplectic manifolds.

Special Values of the Hypergeometric Series

American Mathematical Soc. In this paper, the author presents a new method for finding identities for hypergeometric series, such as the (Gauss) hypergeometric series, the generalized hypergeometric series and the Appell-Lauricella hypergeometric series. Furthermore, using this method, the author gets identities for the hypergeometric series and shows that values of at some points can be expressed in terms of gamma functions, together with certain elementary functions. The author tabulates the values of that can be obtained with this method and finds that this set includes almost all previously known values and many previously unknown values.

Laws of Virginia Related to Non-Depository Financial Services, 2016 Edition

LexisNexis This fully annotated edition is an ideal publication for bankers and attorneys who specialize in banking law. Contains Title 6.1, Banking and Finance. Keep this convenient, softbound volume in your briefcase or on your desk for quick reference at all times.

The Schenley Experiment

A Social History of Pittsburgh's First Public High School

Penn State Press The Schenley Experiment is the story of Pittsburgh's first public high school, a social incubator in a largely segregated city that was highly—even improbably—successful throughout its 156-year existence. Established in 1855 as Central High School and reorganized in 1916, Schenley High School was a model of innovative public education and an ongoing experiment in diversity. Its graduates include Andy Warhol, actor Bill Nunn, and jazz virtuoso Earl Hines, and its prestigious academic program (and pensions) lured such teachers as future Pulitzer Prize winner Willa Cather. The subject of investment as well as destructive neglect, the school reflects the history of the city of Pittsburgh and provides a study in both the best and worst of urban public education practices there and across the Rust Belt. Integrated decades before Brown v. Board of Education, Schenley succumbed to default segregation during the “white flight” of the 1970s; it rose again to prominence in the late 1980s, when parents camped out in six-day-long lines to enroll their children in visionary superintendent Richard C. Wallace's reinvigorated school. Although the

historic triangular building was a cornerstone of its North Oakland neighborhood and a showpiece for the city of Pittsburgh, officials closed the school in 2008, citing over \$50 million in necessary renovations—a controversial event that captured national attention. Schenley alumnus Jake Oresick tells this story through interviews, historical documents, and hundreds of first-person accounts drawn from a community indelibly tied to the school. A memorable, important work of local and educational history, his book is a case study of desegregation, magnet education, and the changing nature and legacies of America's oldest public schools.

Index Theory for Locally Compact Noncommutative Geometries

[American Mathematical Soc.](#) Spectral triples for nonunital algebras model locally compact spaces in noncommutative geometry. In the present text, the authors prove the local index formula for spectral triples over nonunital algebras, without the assumption of local units in our algebra. This formula has been successfully used to calculate index pairings in numerous noncommutative examples. The absence of any other effective method of investigating index problems in geometries that are genuinely noncommutative, particularly in the nonunital situation, was a primary motivation for this study and the authors illustrate this point with two examples in the text. In order to understand what is new in their approach in the commutative setting the authors prove an analogue of the Gromov-Lawson relative index formula (for Dirac type operators) for even dimensional manifolds with bounded geometry, without invoking compact supports. For odd dimensional manifolds their index formula appears to be completely new.

Transfer of Siegel Cusp Forms of Degree 2

[American Mathematical Soc.](#) Let π be the automorphic representation of GL_2 generated by a full level cuspidal Siegel eigenform that is not a Saito-Kurokawa lift, and ρ be an arbitrary cuspidal, automorphic representation of GL_2 . Using Furusawa's integral representation for π combined with a pullback formula involving the unitary group U_2 , the authors prove that the L -functions are "nice". The converse theorem of Cogdell and Piatetski-Shapiro then implies that such representations have a functorial lifting to a cuspidal representation of GL_2 . Combined with the exterior-square lifting of Kim, this also leads to a functorial lifting of ρ to a cuspidal representation of GL_2 . As an application, the authors obtain analytic properties of various L -functions related to full level Siegel cusp forms. They also obtain special value results for L and ρ .

Massachusetts Elder Law

[LexisNexis](#) This second edition reflects changes of the past decade which reshaped elder law and how it is practiced. While Medicaid is still a primary concern, this title also covers trial advocacy issues and updated tax materials. The text discusses the greater reliance on durable powers of attorney and health care proxies. Leading practitioners in elder law provide you with a concise single-source reference addressing vital topics, including heightened conflict in guardianship appointments and management, the evolution of the Social Security System, end-of-life care, and even practice management. The eBook versions of this title feature links to Lexis Advance for further legal research options.

Readings in Artificial Intelligence

[Morgan Kaufmann](#) Readings in Artificial Intelligence focuses on the principles, methodologies, advancements, and approaches involved in artificial intelligence. The selection first elaborates on representations of problems of reasoning about actions, a problem similarity approach to devising heuristics, and optimal search strategies for speech understanding control. Discussions focus on comparison with existing speech understanding systems, empirical comparisons of the different strategies, analysis of distance function approximation, problem similarity, problems of reasoning about action, search for solution in the reduction system, and relationship between the initial search space and the higher level search space. The book then examines consistency in networks of relations, non-resolution theorem proving, using rewriting rules for connection graphs to prove theorems, and closed world data bases. The manuscript tackles a truth maintenance system, elements of a plan-based theory of speech acts, and reasoning about knowledge and action. Topics include problems in reasoning about knowledge, integration knowledge and action, models of plans, compositional adequacy, truth maintenance mechanisms, dialectical arguments, and assumptions and the problem of control. The selection is a valuable reference for researchers wanting to explore the field of artificial intelligence.

Sheaves on Graphs, Their Homological Invariants, and a Proof of the Hanna Neumann Conjecture

[American Mathematical Soc.](#) In this paper the author establishes some foundations regarding sheaves of vector spaces on graphs and their invariants, such as homology groups and their limits. He then uses these ideas to prove the Hanna Neumann Conjecture of the 1950s; in fact, he proves a strengthened form of the conjecture.

To an Effective Local Langlands Correspondence

American Mathematical Soc. Let F be a non-Archimedean local field. Let \mathcal{W}_F be the Weil group of F and \mathcal{P}_F the wild inertia subgroup of \mathcal{W}_F . Let $\widehat{\mathcal{W}}_F$ be the set of equivalence classes of irreducible smooth representations of \mathcal{W}_F . Let $\mathcal{A}^{\{0\}}_n(F)$ denote the set of equivalence classes of irreducible cuspidal representations of $\mathrm{GL}_n(F)$ and set $\widehat{\mathcal{GL}}_F = \bigcup_{n \geq 1} \mathcal{A}^{\{0\}}_n(F)$. If $\sigma \in \widehat{\mathcal{W}}_F$, let $^L\sigma \in \widehat{\mathcal{GL}}_F$ be the cuspidal representation matched with σ by the Langlands Correspondence. If σ is totally wildly ramified, in that its restriction to \mathcal{P}_F is irreducible, the authors treat $^L\sigma$ as known. From that starting point, the authors construct an explicit bijection $\mathbb{N} : \widehat{\mathcal{W}}_F \rightarrow \widehat{\mathcal{GL}}_F$, sending σ to $^N\sigma$. The authors compare this "naïve correspondence" with the Langlands correspondence and so achieve an effective description of the latter, modulo the totally wildly ramified case. A key tool is a novel operation of "internal twisting" of a suitable representation π (of \mathcal{W}_F or $\mathrm{GL}_n(F)$) by tame characters of a tamely ramified field extension of F , canonically associated to π . The authors show this operation is preserved by the Langlands correspondence.

Research Memorandum

The Semantic Web: ESWC 2018 Satellite Events

ESWC 2018 Satellite Events, Heraklion, Crete, Greece, June 3-7, 2018, Revised Selected Papers

Springer This book constitutes the thoroughly refereed post-conference proceedings of the Satellite Events of the 15th Extended Semantic Web Conference, ESWC 2018, held in Heraklion, Crete, Greece, in June 2018. The volume contains 41 poster and demonstration papers, 11 invited workshop papers, and 9 full papers, selected out of a total of 70 submissions. They deal with all areas of semantic web research, semantic technologies on the Web and Linked Data.

Polynomial Approximation on Polytopes

American Mathematical Soc. Polynomial approximation on convex polytopes is considered in uniform and p -norms. For an appropriate modulus of smoothness matching direct and converse estimates are proven. In the p -case so called strong direct and converse results are also verified. The equivalence of the moduli of smoothness with an appropriate p -functional follows as a consequence. The results solve a problem that was left open since the mid 1980s when some of the present findings were established for special, so-called simple polytopes.

The abc -Problem for Gabor Systems

American Mathematical Soc. A longstanding problem in Gabor theory is to identify time-frequency shifting lattices $a\mathbb{Z} \times b\mathbb{Z}$ and ideal window functions χ_I on intervals I of length c such that $\{e^{-2\pi i n b t} \chi_I(t - ma) : (m, n) \in \mathbb{Z} \times \mathbb{Z}\}$ are Gabor frames for the space of all square-integrable functions on the real line. In this paper, the authors create a time-domain approach for Gabor frames, introduce novel techniques involving invariant sets of non-contractive and non-measure-preserving transformations on the line, and provide a complete answer to the above abc -problem for Gabor systems.

Sustainable Green Chemistry

Walter de Gruyter GmbH & Co KG Sustainable Green Chemistry, the 1st volume of Green Chemical Processing, covers several key aspects of modern green processing. The scope of this volume goes beyond bio- and organic chemistry, highlighting the ecological and economic benefits of enhanced sustainability in such diverse fields as petrochemistry, metal production and wastewater treatment. The authors discuss recent progresses and challenges in the implementation of green chemical processes as well as their transfer from academia to industry and teaching at all levels. Selected successes in the greening of established processes and reactions are presented, including the use of switchable polarity solvents, actinide recovery using ionic liquids, and the removal of the ubiquitous bisphenol A molecule from effluent streams by phytodegradation.