

I Sistemi Lineari 10 Zanichelli Online Per La Scuola

Shafarevich's Basic Algebraic Geometry has been a classic and universally used introduction to the subject since its first appearance over 40 years ago. As the translator writes in a prefatory note, "For all [advanced undergraduate and beginning graduate] students, and for the many specialists in other branches of math who need a liberal education in algebraic geometry, Shafarevich's book is a must." The second volume is in two parts: Book II is a gentle cultural introduction to scheme theory, with the first aim of putting abstract algebraic varieties on a firm foundation; a second aim is to introduce Hilbert schemes and moduli spaces, that serve as parameter spaces for other geometric constructions. Book III discusses complex manifolds and their relation with algebraic varieties, Kähler geometry and Hodge theory. The final section raises an important problem in uniformising higher dimensional varieties that has been widely studied as the "Shafarevich conjecture". The style of Basic Algebraic Geometry 2 and its minimal prerequisites make it to a large extent independent of Basic Algebraic Geometry 1, and accessible to beginning graduate students in mathematics and in theoretical physics.

Providing an introduction to both classical and modern techniques in projective algebraic geometry, this monograph treats the geometrical properties of varieties embedded in projective spaces, their secant and tangent lines, the behavior of tangent linear spaces, the algebro-geometric and topological obstructions to their embedding into smaller projective spaces, and the classification of extremal cases. It also provides a solution of Hartshorne's Conjecture on Complete Intersections for the class of quadratic manifolds and new short proofs of previously known results, using the modern tools of Mori Theory and of rationally connected manifolds. The new approach to some of the problems considered can be resumed in the principle that, instead of studying a special embedded manifold uniruled by lines, one passes to analyze the original geometrical property on the manifold of lines passing through a general point and contained in the manifold. Once this embedded manifold, usually of lower codimension, is classified, one tries to reconstruct the original manifold, following a principle appearing also in other areas of geometry such as projective differential geometry or complex geometry.

In che modo un abile giocoliere riesce a mantenere con estrema destrezza un'asta di legno in posizione verticale sul palmo della mano? Il sorprendente trucco si cela nella teoria dei sistemi e dei controlli automatici e nell'immenso fascino delle equazioni differenziali e del feedback. Non è necessario essere matematici per apprezzare la matematica descritta in questo libro. Essa è respirata nella sua profonda essenza e presentata agli occhi del lettore al fine di coinvolgerlo intellettualmente ed emotivamente. Concepito per studenti universitari (o semplicemente appassionati) di Ingegneria, Matematica e Fisica, "La Matematica Elementare del Feedback" è un libro al contempo divulgativo e di approfondimento, dall'esposizione rigorosa ed immediata, in cui il lettore è guidato attraverso una rete ragionata di domande e risposte, di indizi, prove e conclusioni. Un prologo ed un epilogo ben inquadrano il contesto poetico e sentimentale nel quale il libro svolge la sua trama e che ben dipingono lo scenario nel quale ciascuna pagina si iscrive. Capitoli e sezioni hanno titoli accattivanti – degni dei più coinvolgenti romanzi – che ne individuano essenze e motivazioni profonde. Esempi in Matlab-Simulink e Maple forniscono ai concetti teorici sostanza e verticale movimento verso il basso. Risultati sperimentali in suggestivi contesti applicativi donano al tutto avvolgente gusto e inebriante profumo. Un insieme di entusiasmanti esercizi, con cui il lettore può per gioco misurarsi, chiude il sipario. L'augurio è che chiunque incontri, anche per caso, questo libro provi nel leggerlo la medesima passione di chi lo ha scritto e colga in esso un qualche particolare che lo proietti verso orizzonti più complessi.

This book focuses on some of the major developments in the history of contemporary (19th and 20th century) mathematics as seen in the broader context of the development of science and culture. Avoiding technicalities, it displays the breadth of contrasting images of mathematics favoured by different countries, schools and historical movements, showing how the conception and practice of mathematics changed over time depending on the cultural and national context. Thus it provides an original perspective for embracing the richness and variety inherent in the development of mathematics. Attention is paid to the interaction of mathematics with themes whose proper treatment have been neglected by the traditional historiography of the discipline, such as the relationship between mathematics, statistics and medicine.

The present volume contains, together with numerous additions and extensions, the course of lectures which I gave at Pavia (26 September till 5 October 1955) by invitation of the «Centro Internazionale Matematico Estivo». The treatment has the character of a monograph, and presents various novel features, both in form and in substance; these are indicated in the notes which will be found at the beginning and end of each chapter. Of the nine parts into which the work is divided, the first four are essentially differential in character, the next three deal with algebraic geometry, while the last two are concerned with certain aspects of the theory of differential equations and of correspondences between topological varieties. A glance at the index will suffice to give a more exact idea of the range and variety of the contents, whose chief characteristic is that of establishing suggestive and sometimes unforeseen relations between apparently diverse subjects (e. g. differential geometry in the small and also in the large, algebraic geometry, function theory, topology, etc.); prominence is given throughout to the geometrical view point, and tedious calculations are as far as possible avoided. The exposition has been planned so that it can be followed without much difficulty even by readers who have no special knowledge of the subjects treated.

In the last few decades the theory of ordinary differential equations has grown rapidly under the action of forces which have been working both from within and without: from within, as a development and deepening of the concepts and of the topological and analytical methods brought about by LYAPUNOV, POINCARÉ, BENDIXSON, and a few others at the turn of the century; from without, in the wake of the technological development, particularly in communications, servomechanisms, automatic controls, and electronics. The early research of the authors just mentioned lay in challenging problems of astronomy, but the line of thought thus produced found the most impressive applications in the new fields. The body of research now accumulated is overwhelming, and many books and reports have appeared on one or another of the multiple aspects of the new line of research which some authors call "qualitative theory of differential equations". The purpose of the present volume is to present many of the view points and questions in a readable short report for which completeness is not claimed. The bibliographical notes in each section are intended to be a guide to more detailed expositions and to the original papers. Some traditional topics such as the Sturm comparison theory have been omitted. Also excluded were all those papers, dealing with special differential equations motivated by and intended for the applications.

This volume contains revised papers that were presented at the international workshop entitled Computational Methods for Algebraic Spline Surfaces ("COMPASS"), which was held from September 29 to October 3, 2003, at Schloß Weinberg, Kefermarkt (Austria). The workshop was mainly devoted to approximate algebraic geometry and its applications. The organizers wanted to emphasize the novel idea of approximate implicitization, that has strengthened the existing link between CAD / CAGD (Computer Aided Geometric Design) and classical algebraic geometry. The existing methods for exact implicitization (i. e. , for conversion from the parametric to an implicit representation of a curve or surface) require exact arithmetic and are too slow and too expensive for industrial use. Thus the duality of an implicit representation and a parametric representation is only used for low degree algebraic surfaces such as planes, spheres, cylinders, cones and toroidal surfaces. On the other hand, this duality is a very useful tool for developing efficient algorithms. Approximate implicitization makes this duality available for general curves and surfaces. The traditional exact implicitization of parametric surfaces produce global representations, which are exact everywhere. The surface patches used in CAD, however, are always defined within a small box only; they are obtained for a bounded parameter domain (typically a rectangle, or – in the case of "trimmed" surface patches – a subset of a rectangle). Consequently, a globally exact representation is not really needed in practice.

The second volume of Shafarevich's introductory book on algebraic geometry focuses on schemes, complex algebraic varieties and complex manifolds. As with Volume 1 the author has revised the text and added new material, e.g. a section on real algebraic curves. Although the material is more advanced than in Volume 1 the algebraic apparatus is kept to a minimum making the book accessible to non-specialists. It can be read independently of Volume 1 and is suitable for beginning graduate students in mathematics as well as in theoretical physics.

The contributions in this proceedings volume offer a new perspective on the mathematical ties between France and Italy, and reveal how mathematical developments in these two countries affected one another. The focus is above all on the Peninsula's influence on French mathematicians, counterbalancing the historically predominant perception that French mathematics was a model for Italian mathematicians. In the process, the book details a subtle network of relations between the two countries, where mathematical exchanges fit into the changing and evolving framework of Italian political and academic structures. It reconsiders the issue of nationalities in all of its complexity, an aspect often neglected in research on the history of mathematics. The works in this volume are selected contributions from a conference held in Lille and Lens (France) in November 2013 on Images of Italian Mathematics in France from Risorgimento to Fascism. The authors include respected historians of mathematics, philosophers of science, historians, and specialists for Italy and intellectual relations, ensuring the book will be of great interest to their peers.

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Mathematicians in Bologna 1861–1960 Springer Science & Business Media

This book commemorates the 150th birthday of Corrado Segre, one of the founders of the Italian School of Algebraic Geometry and a crucial figure in the history of Algebraic Geometry. It is the outcome of a conference held in Turin, Italy. One of the book's most unique features is the inclusion of a previously unpublished manuscript by Corrado Segre, together with a scientific commentary. Representing a prelude to Segre's seminal 1894 contribution on the theory of algebraic curves, this manuscript and other important archival sources included in the essays shed new light on the eminent role he played at the international level. Including both survey articles and original research papers, the book is divided into three parts: section one focuses on the implications of Segre's work in a historic light, while section two presents new results in his field, namely Algebraic Geometry. The third part features Segre's unpublished notebook: Sulla Geometria Sugli Enti Algebrici Semplicemente Infiniti (1890-1891). This volume will appeal to scholars in the History of Mathematics, as well as to researchers in the current subfields of Algebraic Geometry.

The goal of this book is to give a comprehensive and systematic exposition of the mechanics of nonholonomic systems, including the kinematics and dynamics of nonholonomic systems with classical nonholonomic constraints, the theory of stability of nonholonomic systems, technical problems of the directional stability of rolling systems, and the general theory of electrical machines. The book contains a large number of examples and illustrations.

This reference presents the proceedings of an international meeting on the occasion of the University of Bologna's ninth centennial-highlighting the latest developments in the field of geometry and complex variables and new results in the areas of algebraic geometry, differential geometry, and analytic functions of one or several complex variables. Building upon the rich tradition of the University of Bologna's great mathematics teachers, this volume contains new studies on the history of mathematics, including the algebraic geometry work of F. Enriques, B. Levi, and B. Segre ... complex function theory ideas of L. Fantappie, B. Levi, S. Pincherle, and G. Vitali ... series theory and logarithm theory contributions of P. Mengoli and S. Pincherle ... and much more. Additionally, the book lists all the University of Bologna's mathematics professors-from 1860 to 1940-with precise indications of each course year by year. Including survey papers on combinatorics, complex analysis, and complex algebraic geometry inspired by Bologna's mathematicians and current advances, Geometry and Complex Variables illustrates the classic works and ideas in the field and their influence on today's research.

The scientific personalities of Luigi Cremona, Eugenio Beltrami, Salvatore Pincherle, Federigo Enriques, Beppo Levi, Giuseppe Vitali, Beniamino Segre and of several other mathematicians who worked in Bologna in the century 1861–1960 are examined by different authors, in some cases providing different view points. Most contributions in the volume are historical; they are reproductions of original documents or studies on an original work and its impact on later research. The achievements of other mathematicians are investigated for their present-day importance.

Per gli insegnamenti di: Teoria dei sistemi Fondamenti di Automatica e Controlli Automatici

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