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Nota di contenuto	1 - "And Now We're In 2018..." -- 2 - Applied Mathematics in Brazil: Challenges and Opportunities -- 3 - Biomathematics at the IMECC -- 4 - Phase field: a methodology to model complex material behavior -- 5 - Spherical codes from lattices -- 6 - Nonvariational semilinear elliptic systems -- 7 - Perfect simulation and convex mixture of context trees -- 8 - Inference in (M)GARCH Models in the Presence of Additive Outliers: Specification, Estimation and Prediction -- 9 - Notes on Newton's method after 1960 -- 10 - Minimal surfaces and their Gauss maps -- 11 - Galois theories: a survey -- 12 - On the geometry and

topology of the commutator of unit quaternions -- 13 - Life in the Rindler Reference Frame: Does an uniformly accelerated charge radiates? Is there a Bell "Paradox"? Is Unruh Effect real? -- 14 - Flag type of semigroups: A survey -- 15 - Generic singularities of 3D piecewise smooth dynamical systems.

Sommario/riassunto

This book celebrates the 50th anniversary of the Institute of Mathematics, Statistics and Scientific Computing (IMECC) of the University of Campinas, Brazil, by offering reviews of selected research developed at one of the most prestigious mathematics institutes in Latin America. Written by senior professors at the IMECC, it covers topics in pure and applied mathematics and statistics ranging from differential geometry, dynamical systems, Lie groups, and partial differential equations to computational optimization, mathematical physics, stochastic process, time series, and more. A report on the challenges and opportunities of research in applied mathematics - a highly active field of research in the country - and highlights of the Institute since its foundation in 1968 completes this historical volume, which is unveiled in the same year that the International Mathematical Union (IMU) names Brazil as a member of the Group V of countries with the most relevant contributions in mathematics.
