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	Nota di contenuto	Part I Robust Topological Analysis: 1 Robust Detection of Singularities in Vector Fields: H. Bhatia, A. Gyulassy, H. Wang, P.-T. Bremer and V. Pascucci -- 2 Interpreting Feature Tracking Through the Lens of Robustness: P. Skraba and B. Wang -- 3 Simplification of Morse Decompositions using Morse Set Mergers: L. Sipeki and A. Szymczak -- 4 Toward the Extraction of Saddle Periodic Orbits: J. Kasten, J. Reininghaus, W. Reich and G. Scheuermann -- Part II Efficient Computation of Topology -- 5 Computational Topology via Functional Programming: A Baseline Analysis: D. Duke and H. Carr -- 6 Distributed Contour Trees: D. Morozov and G.H. Weber -- 7 Clear and Compress: Computing Persistent Homology in Chunks: M. Kerber, J.

Reininghaus and U. Bauer -- 8 Parallel Computation of Nearly Recurrent Components of Piecewise Constant Vector Fields: N. BrunhartLupo and A. Szymczak -- Part III Simplification, Approximation and Distance Measures -- 9 Notes on the Simplification of the Morse-Smale Complex: D. Günther, J. Reininghaus, H.-P. Seidel and T. Weinkauf -- 10 Measuring The Distance Between Merge Trees: K. Beketayev, D. Yeliussizov, D. Morozov, G.H. Weber and B. Hamann -- 11 Topological Integrity for Dynamic Spline Models During Visualization of Big Data: H. P. Cassidy, Th. J. Peters, H. Ilies and K.E. Jordan -- Part IV Time-Dependent Analysis: 12 A Comparison of Finite-Time and Finite-Size Lyapunov Exponents: R. Peikert, A. Pobitzer, F. Sadlo and B. Schindler -- 13 Development of an efficient and flexible pipeline for Lagrangian coherent structure computation: S. Ameli, Y. Desai and S. Shadden -- 14 Topological Features in Time-Dependent Advection-Diffusion Flow: F. Sadlo, G. Karch and Th. Ertl -- Part V Applications: 15 Definition, Extraction, and Validation of Pore Structures in Porous Media: U. Homberg, D. Baum, A. Wiebel, S. Prohaska and H -- Ch. Hege -- 16 Visualization of Two-Dimensional Symmetric Positive Definite Tensor Fields Using the Heat Kernel: V. Zobel, J. Reininghaus and I. Hotz -- 17 Topological Features in Glyph-Based Corotation Visualization: S. Shafii, H. Obermaier, B. Hamann and K. Joy.

Sommario/riassunto	This collection of peer-reviewed conference papers provides comprehensive coverage of cutting-edge research in topological approaches to data analysis and visualization. It encompasses the full range of new algorithms and insights, including fast homology computation, comparative analysis of simplification techniques, and key applications in materials and medical science. The volume also features material on core research challenges such as the representation of large and complex datasets and integrating numerical methods with robust combinatorial algorithms. Reflecting the focus of the TopoInVis 2013 conference, the contributions evince the progress currently being made on finding experimental solutions to open problems in the sector. They provide an inclusive snapshot of state-of-the-art research that enables researchers to keep abreast of the latest developments and provides a foundation for future progress. With papers by some of the world's leading experts in topological techniques, this volume is a major contribution to the literature in a field of growing importance with applications in disciplines that range from engineering to medicine.