
Contents

Topology-Based Flow Visualization, The State of the Art <i>Robert S. Laramée, Helwig Hauser, Lingxiao Zhao, Frits H. Post</i>	1
Topology-guided Visualization of Constrained Vector Fields <i>Ronald Peikert, Filip Sadlo</i>	21
Scale-Space Tracking of Critical Points in 3D Vector Fields <i>Thomas Klein, Thomas Ertl</i>	35
Feature Flow Fields in Out-of-Core Settings <i>Tino Weinkauff, Holger Theisel, Hans-Christian Hege, Hans-Peter Seidel</i>	51
Streamline Predicates as Flow Topology Generalization <i>Tobias Salzbrunn, Gerik Scheuermann</i>	65
Topology-based versus Feature-based Flow Analysis – Challenges and an Application <i>Helwig Hauser, Robert S. Laramée, Helmut Doleisch</i>	79
Topology Based Flow Analysis and Superposition Effects <i>Julia Ebling, Alexander Wiebel, Christoph Garth, Gerik Scheuermann</i>	91
On the Applicability of Topological Methods for Complex Flow Data <i>Holger Theisel, Tino Weinkauff, Hans-Christian Hege, Hans-Peter Seidel</i>	105
Extraction and Visualization of Swirl and Tumble Motion from Engine Simulation Data <i>Christoph Garth, Robert S. Laramée, Xavier Tricoche, Jürgen Schneider, Hans Hagen</i>	121
Simulation Methods for Advanced Design Engineering <i>Markus Trenker, Wolfgang Payer, Matthias Haigis</i>	137

A Practical Approach to Two-Dimensional Scalar Topology <i>Peer-Timo Bremer, Valerio Pascucci</i>	151
On the Role of Topology in Focus+Context Visualization <i>Ivan Viola, Eduard Gröller</i>	171
<i>N</i>-dimensional Data-Dependent Reconstruction Using Topological Changes <i>Zsolt Tóth, Ivan Viola, Andrej Ferko, Eduard Gröller</i>	183
Colorplates	199



<http://www.springer.com/978-3-540-70822-3>

Topology-based Methods in Visualization

Hauser, H.; Hagen, H.; Theisel, H. (Eds.)

2007, X, 222 p., Hardcover

ISBN: 978-3-540-70822-3