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Advances in Spatio-Temporal Analysis

Developments in Geographic Information Technology have raised the expectations of users. A static map is no longer enough; there is now demand for a dynamic representation. Time is of great importance when operating on real world geographical phenomena, especially when these are dynamic. Researchers in the field of Temporal Geographical Information Systems (TGIS) have been developing methods of incorporating time into geographical information systems. Spatio-temporal analysis embodies spatial modelling, spatio-temporal modelling and spatial reasoning and data mining. **Advances in Spatio-Temporal Analysis** contributes to the field of spatio-temporal analysis, presenting innovative ideas and examples that reflect current progress and achievements.

Prof. Xinming Tang is Deputy Director of the Key Laboratory of Geo-informatics of the State Bureau of Surveying and Mapping, Chinese Academy of Surveying and Mapping of China. He is currently serving as Chair of the ISPRS WG II/1(2004–2008). His research interests cover fuzzy GIS, Temporal GIS, land cover and land utilization, national fundamental GIS and Remote Sensing.

Prof. Yaolin Liu is Dean of the School of Resource and Environmental Science, Wuhan University, China. He is currently Chair of the ISPRS WG II/2(2004–2008). His research interests include urban environment, land management and cadastre, land use planning, land information systems, urban information systems and database generalization.

Prof. Jixian Zhang is President of Chinese Academy of Surveying and Mapping, China. He is currently serving as Chair of the ISPRS WG VII/6(2004–2008). His research interests are remote sensing data processing, satellite photogrammetry, image recognition and geographic information system.

Prof. Wolfgang Kainz is professor at the Department of Geography and Regional Research, University of Vienna, Austria. He is currently President of the ISPRS TC II (2004–2008). His research interests include spatial decision support systems, spatial data handling, spatial data uncertainty, cartographic modelling and visualization.



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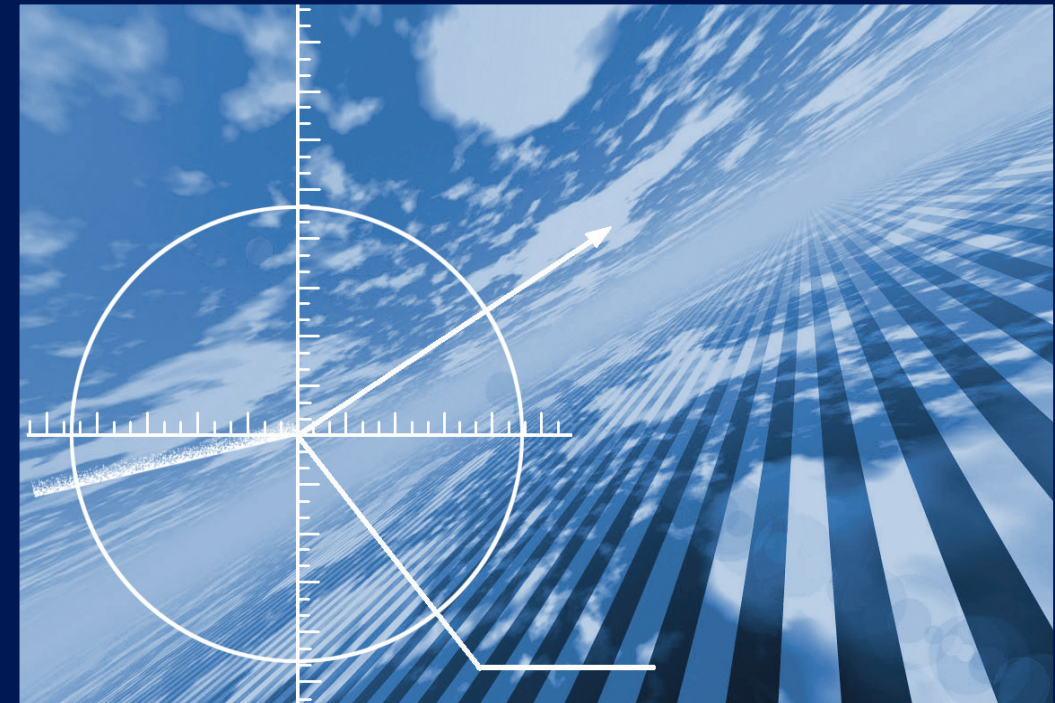
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Advances in Spatio-Temporal Analysis

Tang, Liu, Zhang, Kainz



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Advances in Spatio-Temporal Analysis

Edited by Xinming Tang, Yaolin Liu, Jixian Zhang and Wolfgang Kainz



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Advances in Spatio-Temporal Analysis

Editors

Xinming Tang

Key Laboratory of Geo-informatics of SBSM, China

Yaolin Liu

Wuhan University, China

Jixian Zhang

Chinese Academy of Surveying and Mapping, China

Wolfgang Kainz

Department of Geography and Regional Research, University of Vienna, Austria



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Preface

Almost everything in the world changes over time. In order to represent and operate upon real world geographical phenomena, researchers in the geospatial area have always been trying to find the most suitable way to incorporate time into geographical information systems. This is known as Temporal Geographical Information Systems (TGIS). TGIS, which are capable of handling temporal as well as spatial information, will greatly expand current GIS applications and allow new information to be obtained.

The past two decades have witnessed a significant advancement, as well as a growth in popularity, in TGIS. Various specialized technical meetings have been held on the subject. Chief among these was the International Symposium on Spatial-temporal Modelling, Spatial Reasoning, Analysis, Data Mining and Data Fusion (STM'05) which took place from 27 to 29 August 2005 in Beijing, China. STM'05 was a joint workshop of ISPRS WGII/1,2,7 and WG VII/6, providing an interdisciplinary forum for international scientists and researchers to present their latest research results and share experiences in TGIS, especially in spatio-temporal analysis. STM'05 attracted about 120 papers from more than 20 countries, and 21 of these papers were carefully selected, updated and peer-reviewed to form this book – *Advances in Spatio-temporal Analysis*. Spatio-temporal analysis is here considered to embody spatial modelling, spatio-temporal modelling, spatio-temporal analysis, and spatial reasoning and data mining.

This book contributes to the field of spatio-temporal analysis, presenting innovative ideas and examples that reflect the current progress and achievements. It will be a useful reference for advanced GIS students, as well as professionals, engaged in TGIS. I trust readers will find the book of benefit in understanding the developments in the emerging field of spatio-temporal analysis.

Vienna, January 2007

Wolfgang Kainz
President, ISPRS TC II

Contributors

- Georg Bareth**, University of Cologne, Cologne, Germany, E-mail: g.bareth@uni-koeln.de
- Jin Ben**, Institute of Surveying and Mapping, Information Engineering University, Zhengzhou, 450052
- Peter Caccetta**, CSIRO Mathematical and Information Sciences, Private Bag 5, Wembley, WA 6913, Australia, E-mail: Peter.Caccetta@csiro.au
- Bin Chen**, Institute of Remote Sensing and Geographic Information System, Peking University, Beijing, China, E-mail: gischen@pku.edu.cn
- Jianzhong Chen**, Department of Computing, Imperial College London South Kensington, London SW7 2BZ, UK, E-mail: jz.chen@imperial.ac.uk
- Tao Cheng**, ①Department of Land Surveying and GeoInformatics, The Hong Kong Polytechnic University, Hong Kong, ②School of Geography and Planning, Sun Yat-sen University, Guang Zhou, China, E-mail: lstc@polyu.edu.hk
- Mahmoud R. Delavar**, Dept. of Surveying and Geomatic Eng., Eng. Faculty, University of Tehran, Tehran, Iran, E-mail: mdelavar @ut.ac.ir
- Yu Fang**, Institute of Remote Sensing and Geographic Information System, Peking University, Beijing, China
- Andrew U. Frank**, Dept. of Geo-Information E-127, Technische University Wien, Gusshausstr. 27-29, A-1040 Vienna Austria, E-mail: frank@geoinfo.tuwien.ac.at
- Suzanne Furby**, CSIRO Mathematical and Information Sciences, Private Bag 5, Wembley, WA 6913, Australia, Email: Suzanne.Furby@csiro.au
- JianHua Gong**, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences, Datun Road, Chaoyang District, Beijing, China, E-mail: jhgong@irsa.ac.cn
- Yuchang Gong**, Dept. of Computer Science and Technology, University of Science and Technology of China, Jinzhai Road 96#, Hefei, 230027, China, E-mail: ycgong@ustc.edu.cn
- Jianhua He**, School of Resource and Environment Science, Wuhan University, 129 Luoyu Road, Wuhan, 430079, China, E-mail: hjianh@126.com
- Fengru Huang**, Institute of Remote Sensing and Geographic Information System, Peking University, Beijing, China
- Peiquan Jin**, Dept. of Computer Science and Technology, University of Science and Technology of China, Jinzhai Road 96#, Hefei, 230027, China, E-mail: jpq@ustc.edu.cn
- Xin Jin**, Institute of Remote Sensing and Geographic Information Systems, Peking University, Beijing, 100871, China, E-mail: terrible2@sina.com
- Wolfgang Kainz**, Department of Geography and Regional Research, University of Vienna, Austria, Email: wolfgang.kainz@univie.ac.at
- Farid Karimipour**, Dept. of Surveying and Geomatic Eng., Eng. Faculty, University of Tehran, Tehran, Iran, E-mail: karimipr @ut.ac.ir
- Menno J. Kraak**, ITC, GIP dept, PO Box 6, 7500 AA Enschede, the Netherlands, Email: kraak@itc.nl
- Bing Lei**, Key Laboratory of Geo-informatics of State Bureau of Surveying and Mapping, Chinese Academy of Surveying and Mapping, 16 Beitaping Road, Haidian District, Beijing, 100039, China, E-mail: leibing@casm.ac.cn
- Deren Li**, National Laboratory for Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, Wuhan, 430079, China, E-mail: drli@whu.edu.cn

Lin Li, School of Resource and Environment Science, Wuhan University, Wuhan China 430079, E-mail: lilin@telecarto.com

Zhilin Li, Department of Land surveying and GeoInformatics, The Hong Kong Polytechnic University, Hong Kong, E-mail: lszlli@polyu.edu.hk

Dayou Liu, College of Computer Science and Technology, Key Laboratory of Symbolic Computation and Knowledge Engineering of Ministry of Education, Jilin University, Changchun, 130012, China, E-mail: dyliu@jlu.edu.cn

Hanli Liu, School of Resource and Environment Science, Wuhan University, 129 Luoyu Road, Wuhan, P.R.China, 430079, E-mail: liuhl000@sohu.com

Jie Liu, College of Computer Science and Technology, Key Laboratory of Symbolic Computation and Knowledge Engineering of Ministry of Education, Jilin University, Changchun, 130012, China

Yaolin Liu, School of Resource and Environment Science, Wuhan University, 129 Luoyu Road, Wuhan, 430079, China, E-mail: Yaolin610@163.com

Yu Liu, Institute of Remote Sensing and Geographic Information Systems, Peking University, Beijing, 100871, China, E-mail: liuyu@urban.pku.edu.cn

Li Meng, Institute of Surveying and Mapping, Information Engineering University, Zhengzhou, 450052, China

Zuohua Miao, School of Resource and Environment Science, Wuhan University, China, Wuhan, E-mail: whmzh@hotmail.com

Mao Pan, School of Earth and Space Science, Peking University, Beijing, 100871

Honggang Qu, School of Earth and Space Science, Peking University, Beijing, 100871, E-mail: xqugang@pku.edu.cn

Hani Rezayan, Dept. of Surveying and Geomatic Eng., Eng. Faculty, University of Tehran, Tehran, Iran, E-mail: rezayan@ut.ac.ir

Wenzhong Shi, Advanced Research Centre for Spatial Information Technology, Department of Land Surveying and Geo-informatics, The Hong Kong Polytechnic University, Email: lswzshi@polyu.edu.hk

Xinming Tang, Key Laboratory of Geo-informatics of State Bureau of Surveying and Mapping, Chinese Academy of Surveying and Mapping, 16 Beitaiping Road, Haidian District, Beijing, 100039, China, E-mail: tang@casm.ac.cn

Valentyn Tolpekin, ITC, EOS dept, PO Box 6, 7500 AA, Enschede, The Netherlands, E-mail: tolpekin@itc.nl

Xiaochong Tong, Institute of Surveying and Mapping, Information Engineering University, Zhengzhou, 450052, China, E-mail: txchr@yahoo.com.cn

Ulanbek D.Turdukulov, ITC, GIP dept, PO Box 6, 7500 AA Enschede The Netherlands, Email: turdukulov@itc.nl

Jeremy Wallace, CSIRO Mathematical and Information Sciences, Private Bag 5, Wembley, WA 6913, Australia, Email: Jeremy.Wallace@csiro.au

Bin Wang, School of Earth and Space Science, Peking University, Beijing

Huibing Wang, Key Laboratory of Geo-informatics of State Bureau of Surveying and Mapping, Chinese Academy of Surveying and Mapping, 16 Beitaiping Road, Haidian District, Beijing, 100039, China, E-mail: wanghb@casm.ac.cn

Shengsheng Wang, College of Computer Science and Technology, Key Laboratory of Symbolic Computation and Knowledge Engineering of Ministry of Education, Jilin University, Changchun, 130012, China, E-mail: wss@jlu.edu.cn

Shuliang Wang, ①International School of Software, Wuhan University, Wuhan, 430072, China, ②School of Economics and Management, Tsinghua University, Beijing, 100084, China, E-mail: slwang2005@whu.edu.cn

Xiaoming Wang, Institute of Remote Sensing and Geographic Information Systems, Peking University, Beijing, 100871, China, E-mail: wangxiaoming@pku.edu.cn

Xinying Wang, College of Computer Science and Technology, Key Laboratory of Symbolic Computation and Knowledge Engineering of Ministry of Education, Jilin University, Changchun, China

Yong Wang, School of Earth and Space Science, Peking University, Beijing

Zhangang Wang, School of Earth and Space Science, Peking University, Beijing
Lan Wu, State Bureau of Surveying and Mapping, 9 Sanlihe Road, Haidian District Beijing, 100830, China, E-mail: wulan@sbsm.gov.cn
Xiaofang Wu, College of Information, South China Agriculture University, Guangzhou, China
Xiaoliang Wu, CSIRO Mathematical and Information Sciences, Private Bag 5, Wembley, WA 6913, Australia, Email: Xiaoliang.Wu@csiro.au
Zhiyong Xu, Key Laboratory of GIS, Ministry of Education, School of Resources and Environment Science, Wuhan University, Wuhan, China, E-mail: XuSirZY@163.com
Huiwu Yan, Key Laboratory of GIS, Ministry of Education, School of Resources and Environment Science, Wuhan University, Wuhan, China
Zhangcai Yin, ①School of Resource and Environment Science, Wuhan University, Wuhan China, 430079, ②School of Resources and Environmental Engineering, Wuhan University Technology, Wuhan, China, 430070, E-mail: yinzhangcai@163.com
Qiangyuan Yu, ①College of Computer Science and Technology, Jilin University, ②Key Laboratory of Symbolic Computation and Knowledge Engineering of Ministry of Education, Jilin University, 130012, ChangChun, China, E-mail: qiangyuan@jlu.edu.cn
Zhenrong Yu, China Agricultural University, Beijing, China
Lihua Yue, Dept. of Computer Science and Technology, University of Science and Technology of China, Jinzhai Road 96#, Hefei, 230027, China, E-mail: llyue@ustc.edu.cn
Liang Zhai, Key Laboratory of Geo-informatics of State Bureau of Surveying and Mapping, Chinese Academy of Surveying and Mapping, 16 Beitaping Road, Haidian District, Beijing, 100039, China, E-mail: zhailiang@126.com
Jixian Zhang, Chinese Academy of Surveying and Mapping, 16 Beitaping Road, Haidian District, Beijing, 100039, China, E-mail: zhangjx@casm.ac.cn
Yi Zhang, Institute of Remote Sensing and Geographic Information Systems, Peking University, Beijing 100871, China, E-mail: zy@pku.edu.cn
Yongsheng Zhang, Institute of Surveying and Mapping, Information Engineering University, Zhengzhou, China
Guorui Zhu, Key Laboratory of GIS, Ministry of Education, School of Resources and Environment Science, Wuhan University, Wuhan, China
Haihong Zhu, School of Resource and Environment Science, Wuhan University, Wuhan, China, 430079
Min Zhu, CSIRO Mathematical and Information Sciences, Private Bag 5, Wembley, WA 6913, Australia, Email: Min.Zhu@csiro.au