
Journal of Global Positioning Systems

Aims and Scope

The Journal of Global Positioning Systems is a peer-reviewed international journal for the publication of new information, knowledge, scientific developments and applications of the global navigation satellite systems as well as other positioning, location and navigation technologies. The Journal will include original research papers, review articles and invited contributions. Short research and technical notes, book reviews, and commercial advertisements are also welcome. Specific questions about the suitability of prospective manuscripts may be directed to the Editor-in-Chief.

Editor-in-Chief

Jinling Wang

The University of New South Wales, Sydney, Australia
jinling.wang@unsw.edu.au

Editorial Board

Ruizhi Chen

Finnish Geodetic Institute, Finland

Wu Chen

Hong Kong Polytechnic University, Hong Kong

Dorota Grejner-Brzezinska

Ohio State University, United States

Ren Da

Bell Labs/Lucent Technologies, Inc., United States

C.D. de Jong

Delft University of Technology, The Netherlands

Hans-Jürgen Euler

Leica Geo-systems, Switzerland

Yanming Feng

Queensland University of Technology, Australia

Yang Gao

University of Calgary, Canada

Shaowei Han

Thales Navigation, United States

Changdon Kee

Seoul National University, Korea

Hansjoerg Kutterer

Deutsches Geodaetisches Forschungsinstitut, Germany

Jiancheng Li

Wuhan University, China

Esmond Mok

Hong Kong Polytechnic University, Hong Kong

J.F. Galera Monico

Departamento de Cartografia FCT/UNESP, Brazil

Günther Retscher

Vienna University of Technology, Austria

Gethin Roberts

University of Nottingham, United Kingdom

Rock Santerre

Laval University, Canada

Bruno Scherzinger

Applanix Corporation, Canada

Salah Sukkarieh

The University of Sydney, Australia

Todd Walter

Stanford University, United States

Lambert Wanninger

Ingenieurbuero Wanninger, Germany

Caijun Xu

Wuhan University, China

Guochang Xu

GeoForschungsZentrum (GFZ) Potsdam, Germany

Ming Yang

National Cheng Kung University, Taiwan

Kefei Zhang

RMIT University, Australia

Guoqing Zhou

Old Dominion University, United States

Editorial Advisory Board

Junyong Chen

National Bureau of Surveying and Mapping, China

Yongqi Chen

Hong Kong Polytechnic University, Hong Kong

Paul Cross

University College London, United Kingdom

Guenter Hein

University FAF Munich, Germany

Gerard Lachapelle

University of Calgary, Canada

Jingnan Liu

Wuhan University, China

Keith D. McDonald

NavTech, United States

Chris Rizos

The University of New South Wales, Australia

Peter J.G. Teunissen

Delft University of Technology, The Netherlands

Sien-Chong Wu

Jet Propulsion Laboratory, NASA, United States

Yilin Zhao

Motorola, United States

IT Support Team

Satellite Navigation & Positioning Group

The University of New South Wales, Australia

Publication and Copyright

The Journal of Global Positioning Systems is an official publication of the International Association of Chinese Professionals in Global Positioning Systems (CPGPS). It is published twice a year, in June and December. The Journal will have both print version (ISSN 1446-3156) and CD-ROM version (ISSN 1446-3164), which can be accessed through the CPGPS website at <http://www.cpgps.org/journal/journal.html>. Whilst CPGPS owns all the copyright of all text material published in the Journal, the authors are responsible for the views and statement expressed in their papers and articles. Neither the authors, the editors nor CPGPS can accept any legal responsibility for the contents published in the journal.

Subscriptions and Advertising

Membership dues in the CPGPS include the subscription to the Journal during the period of membership. Subscriptions from non-members and advertising inquiries should be directed to:

CPGPS Headquarters

Department of Geomatics Engineering

The University of Calgary

Calgary, Alberta, Canada T2N 1N4

Fax: +1(403) 284-1980

E-mail: journal@cpgps.org

© CPGPS, 2002. All the rights reserved.

CPGPS Logo Design:

Peng Fang

University of California, San Diego, United States

Cover Design and Layout:

Satellite Navigation & Positioning Group

The University of New South Wales, Australia

Printing:

Wuhan University, China

Journal of Global Positioning Systems

Vol. 1, No.1, 2002

Table of Contents

The Modernization of GPS: Plans, New Capabilities and the Future Relationship to Galileo Keith D. McDonald.....	1
Precise Ionosphere Modeling Using Regional GPS Network Data Y. Gao and Z.Z. Liu.....	18
Multipath Mitigation for Bridge Deformation Monitoring G. W. Roberts, X. Meng, A. H. Dodson and E. Cosser	25
3D Multi-static SAR System for Terrain Imaging Based on Indirect GPS Signals Yonghong Li, Chris Rizos, Eugene Donskoi, John Homer and Bijan Mojarabi	34
Accuracy Performance of Virtual Reference Station (VRS) Networks Günther RETSCHER	40
Pseudolite Applications in Positioning and Navigation: Progress and Problems J. Wang	48

Experts Forum

An Overview of Atmospheric Radio Occultation T. P. Yunck.....	58
The Contribution of GPS Flight Receivers to Global Gravity Field Recovery Peter Schwintzer and Christoph Reigber	61
Ocean Remote Sensing with GPS Cinzia Zuffada	64
GPS For Ionospheric Sensing: Space and Ground Based E. A. Essex.....	66