

---

# THE ROYAL INSTITUTE OF NAVIGATION

## *Aims and Objects*

The objects of the Institute are to unite in one body those who are concerned with or who are interested in navigation and to further its development. Navigation is conceived as applying to locomotion of all kinds and is perceived as encompassing aspects of: command and control, psychology and zoology, operational research, risk analysis, theoretical physics, operation in hostile environments, instrumentation, ergonomics, financial planning and law as well as electronics, astronomy, mathematics, cartography and other subjects traditionally associated with navigation.

The aims of the Institute are to encourage the creation and dissemination of knowledge through research and development, to co-ordinate information from all the disciplines involved, to provide a forum in which new ideas and new products can have the benefit of informed and professional scrutiny and to further education and communication.

The Institute initiates conferences and symposia on specific subjects and has a programme of meetings at which lectures are given and discussed. There are standing Special Interest Groups (SIGs) which keep under constant review pertinent aspects of navigation. The success of these Special Interest Groups is crucially dependent on the active involvement of members.

The SIGs include: Animal Navigation Group (ANG), Civil and Military Aviation Group (CMAG), General Aviation Navigation Group (GANG), History of Air Navigation Group (HANG), Land Vehicle Navigation Group (LVNG), Marine Traffic Navigation Group (MTNG), Navigation On Foot (NOF), Small Craft Group (SCG) and Satellite Special Interest Group (SATSIG).

The Institute publishes *The Journal of Navigation* four times a year. It contains papers which have been presented at meetings, other original papers and selected papers and reports from Special Interest Groups. The Institute also publishes *Navigation News* six times a year which contains a full account of the Institute's proceedings and activities. This includes Branch News, a record of current navigational work, a diary of events, topical articles, news about Membership and advertising. A great deal of the Institute's work is international in character and is co-ordinated with that of similar organizations in other countries.

## *Membership*

There are seven classes of Membership of the Institute:

(1) HONORARY FELLOWS: Distinguished persons upon whom the Council may see fit to confer an honorary distinction.

(2) FELLOWS: Members, of at least three years' standing, holding certain qualifications laid down in the by-laws; these qualifications include having made a contribution of value to navigation.

(3) ASSOCIATE FELLOWS: Individuals who satisfy the Council of their high level of professional achievement or experience in the advancement of navigation operations, concepts or equipment.

(4) MEMBERS: Persons over twenty-one years of age who satisfy the Council of their interest in navigation.

(5) STUDENT MEMBERS: Persons under twenty-five years of age studying at a recognized school or university with a view to making navigation, or an allied interest, their career.

(6) CORPORATE MEMBERS: Organizations such as universities, navigation schools, government departments or companies, here and abroad, who are directly or indirectly interested in the science of navigation. Corporate Members are entitled to send representatives to all Institute meetings and to receive six copies of its publications. They are encouraged to take an active part in the Institute's work. Applications should be sent by letter addressed to the Director.

(7) RETIRED MEMBERS: Fellows or Members of 65 years of age or over who have paid no fewer than 6 annual subscriptions.

There is also Associateship of the Institute, which gives entitlement of Membership to one Special Interest Group SIG, but not to receipt of the *Journal of Navigation*.

## *Subscriptions*

Annual subscriptions to the Institute are payable in advance as follows (prices are inclusive of vat):

Fellows	£128
Associate Fellows	£123
Members	£118
Student Members	£15

# THE JOURNAL OF NAVIGATION

VOLUME 64 SUPPLEMENT 1 NOVEMBER 2011

## CONTENTS

<b>Chinese Beidou and the Next Generation GNSS</b> <i>Kefei Zhang, Jingnan Liu and Yuanxi Yang</i>	<b>S1</b>
<b>Generalised DOPs with Consideration of the Influence Function of Signal-in-Space Errors</b> <i>Yuanxi Yang, Jinlong Li, Junyi Xu and Jing Tang</i>	<b>S3</b>
<b>Monitoring and Assessment of GNSS Open Services</b> <i>Wenhai Jiao, Qun Ding, Jianwen Li, Xiaochun Lu, Laiping Feng, Jiaqing Ma and Gang Chen</i>	<b>S19</b>
<b>An Evaluation of the Beidou Time System (BDT)</b> <i>Wei-guang Gao, Wen-hai Jiao, Yun Xiao, Mao-lei Wang and Hai-bo Yuan</i>	<b>S31</b>
<b>Multiplexing Performance Assessment of POCKET Method for Compass B1/B3 Signals</b> <i>Kai Zhang, Hongwei Zhou and Feixue Wang</i>	<b>S41</b>
<b>Assessment of Radio Frequency Compatibility between Compass Phase II and Other GNSSs</b> <i>Li Liu, Xingqun Zhan, Wei Liu and Mancang Niu</i>	<b>S55</b>
<b>A Study for IGSO Inclination Angles in the Transmitting Satellite Navigation Constellation</b> <i>Lihua Ma, Guoxiang Ai and Haifu Ji</i>	<b>S73</b>
<b>A Method for Scheduling Receiver Tasks Based on Maximum Allowed Execution Time Dichotomy Search</b> <i>Wei Wu, Shao-jie Ni and Fei-xue Wang</i>	<b>S83</b>
<b>Study of GNSS SIS Error Worst User Location Algorithm</b> <i>Zuo-hu Li, Jin-ming Hao, Jian-wen Li, Qi-le Zhao and Ming-jian Chen</i>	<b>S91</b>
<b>An Analysis of the Structure and Variation of the Tropopause over China with GPS Radio Occultation Data</b> <i>Xiaohua Xu, Jia Luo and Kefei Zhang</i>	<b>S103</b>
<b>Estimation and Mitigation of the Main Errors for Centimetre-level Compass RTK Solutions over Medium-Long Baselines</b> <i>Hairong Guo, Haibo He, Jinlong Li and Aibing Wang</i>	<b>S113</b>
<b>Real-time Processing of Reflected GNSS Signals for Remote Sensing: System and Experiments</b> <i>Wei-qiang Li, Dongkai Yang, Bo Zhang, Mingli Li and Qishan Zhang</i>	<b>S127</b>
<b>A New Method for the Estimation of GPS Repeater Jamming Based on Coloured Noise Kalman Filter</b> <i>Bin Tang, Wei-hen Dai, Wei-hua Xie and Haibo He</i>	<b>S141</b>
<b>Implementation and Performance Assessment of a Vector Tracking Method Based on a Software GPS Receiver</b> <i>Sihao Zhao, Mingquan Lu and Zhenming Feng</i>	<b>S151</b>
<b>A New Algorithm for Onboard Autonomous Orbit Determination of Navigation Satellites</b> <i>Haihong Wang, Zhonggui Chen, Jinjun Zheng and Haibin Chu</i>	<b>S162</b>
<b>A Novel Un-differenced PPP-RTK Concept</b> <i>Baocheng Zhang, Peter J.G. Teunissen and Dennis Odijk</i>	<b>S180</b>
<b>High Dimensional Integer Ambiguity Resolution: A First Comparison between LAMBDA and Bernese</b> <i>Bofeng Li, Peter J.G. Teunissen</i>	<b>S192</b>
<b>An Innovative Approach for Atmospheric Error Mitigation Using New GNSS Signals</b> <i>Lei Yang, Zeynep Elmas, Chris Hill, Marcio Aquino and Terry Moore</i>	<b>S211</b>

Cambridge Journals Online

For further information about this journal  
please go to the journal website at:  
[journals.cambridge.org/nav](http://journals.cambridge.org/nav)



MIX  
Paper from  
responsible sources  
FSC® C018127

CAMBRIDGE  
UNIVERSITY PRESS