

# Preface

China's BeiDou Navigation Satellite System (BDS) has been independently developed, which is similar in principle to global positioning system (GPS) and compatible with other global satellite navigation systems (GNSS). The BeiDou will provide highly reliable and precise positioning, navigation, and timing (PNT) services as well as short-message communication for all users under all-weather, all-time, and worldwide conditions.

Since BeiDou Navigation Satellite System provided the test run services on December 27, 2011, more than 6 satellites have been successfully launched in 4 times with large improvements in system coverage, constellation robustness and positioning accuracy. Currently, all in-orbit satellites and ground systems run well, which meet the design requirements through the testing and evaluation of various user terminals. After the news conference announced the Full Operational Capability (FOC) of BeiDou Navigation Satellite System for China and surrounding area on December 27, 2012, the BeiDou Navigation Satellite System officially starts to provide continuous passive positioning, navigation and timing services as well as active positioning, two-way timing and short message communication services.

China Satellite Navigation Conference (CSNC) is an open platform for academic exchanges in the field of satellite navigation. It aims to encourage technological innovation, accelerate GNSS engineering and boost the development of the satellite navigation industry in China and in the world.

The 4th China Satellite Navigation Conference (CSNC 2013) is held on May 13–17, 2013, Wuhan, China. The theme of CSNC 2013 is BeiDou Application—Opportunities and Challenges, which covers a wide range of activities, including technical seminars, academic exchange, forum, exhibition, lectures as well as ION panel. The main topics are as:

1. BeiDou/GNSS Navigation Applications
2. Satellite Navigation Signal System, Compatibility and Interoperability
3. Precise Orbit Determination and Positioning
4. Atomic Clock Technique and Time–Frequency System

5. Satellite Navigation Augmentation and Integrity Monitoring
6. BeiDou/GNSS Test and Assessment Technology
7. BeiDou/GNSS User Terminal Technology
8. Satellite Navigation Models and Methods
9. Integrated Navigation and New Methods

The proceedings have 181 papers in nine topics of the conference, which were selected through a strict peer-review process from 627 papers presented at CSNC 2013.

We thank the contribution of each author and extend our gratitude to over 100 referees and 36 session chairmen who are listed as members of editorial board. The assistance of CSNC 2013's organizing committees and the Springer editorial office is highly appreciated.

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Chair of CSNC 2013

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