Title:

Navigation，Guidance, Control and Signal Processing

Abstract:

Intelligent integrated navigation and its applications have attracted great attention from both academic and industry in the past years. According to the different principles of navigation information, navigation technology can be divided into radio navigation, satellite navigation, astronomical navigation, inertial navigation, terrain aided navigation, inertial navigation and integrated navigation, as well as landing systems for aircraft such as aircraft. The general name of all equipment combinations that can accomplish certain navigation and positioning tasks is called navigation system, such as global navigation satellite systems (GNSS), inertial navigation, terrestrial radio positioning, odometry, pedestrian dead reckoning, magnetic heading determination, image-based navigation, and map matching are developed alongside a host of other technologies suitable for air, land, sea, underwater, indoor, and space navigation and positioning. In-depth coverage on INS/GNSS and multisensory integration, fault detection and integrity monitoring, design and testing, and the latest thinking on context-dependent and cooperative positioning are developing rapidly. This workshop aims to solicit the latest advances in navigation and guidance from both industry and academic researchers and offers a platform to exchange their ideas and experiences.

Scope and Topics:

This workshop encourages submissions on both theoretical technologies and practical applications. Topics of interests include but are not limited to the following aspects:

- ✧ Principles of inertial navigations
- ✧ Initial alignment of inertial navigation systems
- ✧ Integrated navigation of SINS/GNSS
- ✧ Fault detection of integrated navigation system
- ✧ Lever arm effect study of the transfer alignment
- ✧ Rotation modulation of the SINS
- ✧ Observability analysis of the integrated navigation system
- ✧ Terrain-aided inertial navigation system
- ✧ Map-matching aided inertial navigation system
- ✧ Vision aided inertial navigation system
- ✧ Indoor navigation and underwater navigation

Program Committee Chairs:

Shaoen Wu, Ball State University, USA
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Shaoen Wu received his PhD degree in Computer Science and Software Engineering from Auburn University, his MS degree in Control Theory and Engineering from University of Electronic Science and Technology of China (UESTC), and his BS degree in Automation from Qingdao University of Science and Technology (QUST). He serves on the Advisory Council of Scholarship for the Associate Vice Prisdent for Research. He was featured in the spotlight story of the Ball State Research Magazine 2015. He is a senior member of IEEE, the secretary of IEEE MMTC 2018-2020, and a member of ACM. He has worked as an assistant professor in the School of Computing at University of Southern Mississippi, a Staff Scientist at ADTRAN, and a Member of Technical Staff at Bell Labs, Lucent Technologies. He has published over 65 peer-reviewed papers in wireless, IoT, smart health and robotics at international journals e.g. IEEE Internet of Things Journal and conferences e.g. IEEE Globecom, ICC and ICCCN. His research has been generously supported by NSF, NASA, NVIDIA, Intel, Dell, ARM, Cypress Inc., Microsoft, and Ball State Aspire Program. He has received two Best Paper Awards, a Faculty Excellence Award, and a First Place in Graduate Student Forum. He has actively served as a Chair/Co-Chair at several international conferences and an editor for a few of international journals.

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Liu Xixiang, male, Ph.D., was born in Haian, Jiangsu in 1976. In January 2007, he graduated from the school of Instrument Science and engineering, Southeast University, and received his doctorate degree in engineering. In March 2007, he was taught at the school of Instrument Science and engineering, Southeast University. In April 10, he was promoted to associate professor, and in October 10, he was selected as a master's supervisor. Professor Liu Xixiang has been engaged in the research of inertial navigation, integrated navigation and information fusion technology since 2004. In recent years, more than 20 articles have been written by the first author (including 3 SCI retrieval and 9 EI retrieval) in recent years.

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Qi Wang received his PhD degree in School of Instrumental Science and Engineering, Southeast University. and his BS degree in School of Instrumental Science and Engineering, Southeast University. He worked in Nanjing University of Information Science and Technology since graduated from Southeast University on March 23, 2009. He is a member of Chinese Inertial Technology Society and a member of ACM.

He has published over 10 peer-reviewed papers in inertial navigation, Integrated navigation IoT, and robotics at international journals e.g.

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