Special Issue

Autonomous Underwater Vehicle Navigation

Message from the Guest Editor

Navigation of autonomous underwater vehicles (AUV) is a challenging issue of modern robotic science. Even in the case of well-developed inertial navigation systems (INS), the position estimates obtained by dead reckoning suffer from the integration drift. The sensors utilized for external measurement (e.g., acoustic sonars, acoustic beacons, GPS) either provide bearing-only measurements, which means that an independent position estimate is not possible, or require preliminary path equipping or path adjustment (emersion), which means that they cannot be used on an ongoing basis. Another problem is the dependence of the measurement accuracy on the unknown environment properties such as acoustic speed (which in turn depends on the salinity), currents, and seabed relief. That is why the precise navigation of AUV requires rather delicate data fusion of the measurement provided by various sensors which work on different physical principles, including mechanics, magnetics, acoustics, etc. For more information, please visit: mdpi.com/si/66109

Guest Editor

Prof. Dr. Boris Miller

Laboratory of Image Analysis and Processing, Institute for Information Transmission Problems, Russian Academy of Sciences (IITP RAS), Moscow, Russia

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Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

mdpi.com/journal/sensors

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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