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Autonomous Underwater Vehicle Navigation

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

Deadline for manuscript submissions:
closed (30 June 2020)

Message from the Guest Editor

Dear Colleagues,

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/32617

Prof. Dr. Boris Miller
Guest Editor

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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

Message from the Editor-in-Chief

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Contact Us

Sensors Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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