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Advanced Inertial Sensors: Advances, Challenges and Applications

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Deadline for manuscript submissions:

closed (10 May 2025)

Message from the Guest Editors

High-precision inertial sensors play vital roles in many fields, including Newtonian and relativistic gravity field measurements in space. Among them, electrostatic suspension inertial sensors have already been applied in a series of global gravity recovery satellites, and will continue to serve as the key payloads of the next-generation gravity missions, as well as space-borne gravitational antennas. Superconducting gravity gradiometers and atomic interferometers have unique advantages in high-precision gravitational gradient measurements, especially when applied to exploratory research in experimental relativity. Considering the demand for high or even ultra precision in future planned science missions, as well as the need for versatility and miniaturizations for survey missions, etc., there remain great but exciting challenges in the R&D of advanced inertial sensors.

We welcome submissions on topics including, but not limited to, advanced measurement principles, new designs, technological breakthroughs (readout systems, controls, levitations, noise rejections, etc.), data analysis and processing, potential applications and related mission designs.



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Special Issue



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Message from the Editor-in-Chief

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