Special Issue

Critical Materials and Components for High-Performance Magnetic Encoders in Robotics and Unmanned Systems

Message from the Guest Editor

Magnetic encoders are essential positioning devices for actuators and reducers in robotics and unmanned systems, valued for their compact size, robustness in adverse environments, low power consumption, etc. High-performance magnetic encoders, achieving high accuracy and rapid response, typically comprise hard magnets, sensors, and integrated circuitry. However, their performance is complex and highly dependent on the specific combination of materials and components used. This Special Issue aims to provide a platform for discussions on the design, fabrication, and testing of magnetic encoders, with a specific focus on the critical role of materials and components. We solicit contributions presenting research on magnetic encoders utilizing both commercial off-the-shelf and novel materials/components to achieve high performance. Application examples and application-oriented approaches aligned with industrial practices are also of central interest. We sincerely invite researchers in related fields to submit their manuscripts to this Special Issue.

Guest Editor

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Editor-in-Chief

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