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Recent Advances in Magnetic GSR Sensor

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Message from the Guest Editors

The GSR (Gigahertz Spin Rotation) sensor is based on the fact that a Co-based amorphous magnetic wire has a surface magnetic domain structure with circumferential spin alignment. Using a micro-coil wound around the wire, this sensor detects the change in magnetization caused by the fast spin rotation phenomenon that occurs when the GHz pulse is energized. The characteristics of the sensor include high sensitivity in the GHz range, sinusoidal output of the magnetic field, good linearity, low noise, and no hysteresis. Current projects in progress are research on the principle of GSR sensors, development of Co-based amorphous magnetic wire and micro-coil manufacturing technology, electronic circuits for GHz pulse driving, GSR device design, biomagnetism detection sensors, electronic compass gyros, and current sensors using GSR sensors for automotive application. This Special Issue is dedicated to the GSR sensor and its recent progress, as well as its outlook for future research and development.

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Message from the Editor-in-Chief

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