

## Development and Optimization of Design of an Acceleration Sensor Using Ferrofluid

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A new electromagnetic-type acceleration sensor using ferrofluid was developed to improve the sensitivity and decrease energy consumption. To develop a small acceleration sensor, numerical simulation was carried out. On the basis of the simulation results, the parameters of the sensor were optimized, and a  $10 \times 10 \times 10$  mm<sup>3</sup> acceleration sensor was fabricated in this project. The linear measurement scope of the sensor was also confirmed. It was also confirmed that the sensitivity of this sensor was better than those of previous sensors.

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