

## **Door Pinching Detection Using Door End Rubber with Built-in Pressure-sensitive Sensor**

Shogo MAMADA      Hiroshi TANAKA      Momoko YOSHIDA  
Tatsuya OTA      Yukihiro AKASAKA      Rena WATANABE

Current door pinch detection devices cannot detect narrow objects being pinched, nor the dragging caused by such pinching. To detect these events, we have developed a door pinch detection device (DPDD) that uses a door end rubber with a built-in pressure-sensitive sensor (DRBPS). The developed device can detect objects with a diameter of 8 mm or larger being pinched, as well as dragging occurring outside the vehicle at loads of approximately 150 N or less. The DPDD transmits detection information obtained by the DRBPS to the vehicle body using a non-contact power supply device, making it easy to install on existing vehicles. In a test in which the DPDD was installed on a real vehicle for around one year, there were no instances of missed detections or false alarms.