

## Odor Sensor System for Early Fire Detection and Its Application to Utility Mobile Robot

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(Received December 21, 2004; accepted May 9, 2005)

**Key words:** Odor sensor system, mobile robot, early fire detection

In this paper, an odor sensing system for early fire detection is demonstrated. The odor sensing system consists of a sensor array and a computer. The sensor array consists of five metal-oxide-semiconductor gas sensors. Sensing the generation of hydrogen during incomplete combustion could be effectively utilized to detect the early stage of fire. As an application of the proposed sensor system, it was implemented into a utility robot named “Banryu” (tmsuk, Inc.) which is commercially available.

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