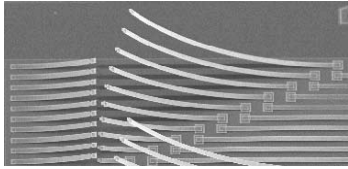


# Development of Hydrogen Gas Sensors and Micromachined Gas Sensors

Associate Professor Sumio Okuyama

## Hydrogen Gas Sensor using Pd

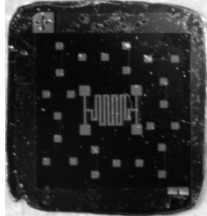


Cantilever type

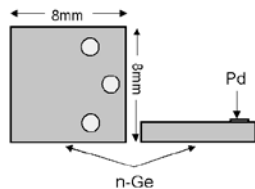


Organic EL type

## Micromachined Hydrogen Gas Sensor



## Hydrogen Gas Sensor using Semiconductor



Pd/Ge Schottoky Diode

Content :

Hydrogen gas is promising as an energy in the next generation. However, because hydrogen gas is explosive, hydrogen gas sensors are indispensable to use hydrogen gas safely. We study various hydrogen sensors:

- (1) Hydrogen gas sensors using palladium. Cantilever type hydrogen gas sensors utilize expansion of palladium by absorption of hydrogen gas. Organic EL hydrogen gas sensors using Pd cathode emits light when it is only in hydrogen gas atmosphere.
- (2) Micromachined hydrogen gas sensor.
- (3) Pd/Ge Schottoky barrier diode hydrogen gas sensor.

Yamagata University Graduate School of Science and Engineering  
Research Interest : Electronics

E-mail: [sumio@ieee.org](mailto:sumio@ieee.org)

Tel : +81-238-26-3282

Fax : +81-238-26-3299

