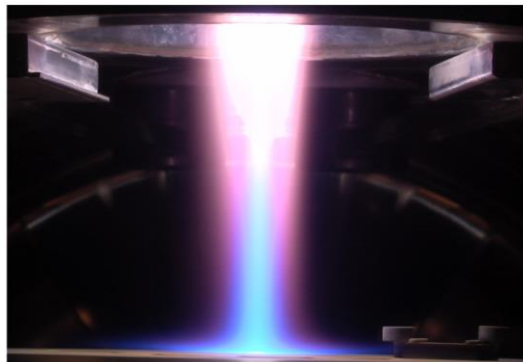


Highly sensitive porous film gas sensors fabricated by plasma spray physical vapor deposition



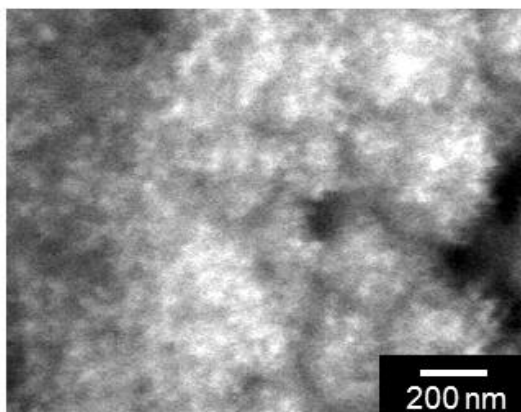
PS-PVD system



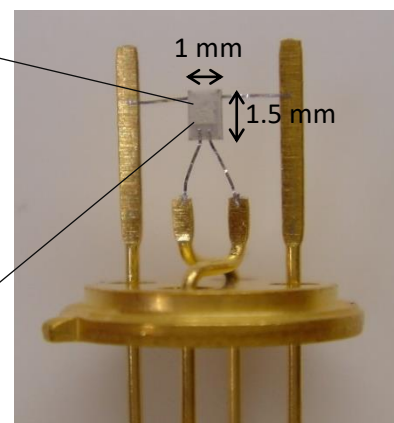
PS-PVD

Semiconducting gas sensors have been becoming an important device for detection of volatile organic compounds (VOC) that are emitted from newly built premises as a cause of sick building syndrome. However, the conventional sensors are not highly sensitive enough to detect VOC gases at several tens of ppb levels that the World Health Organization has announced as guidelines.

In this regard, UCHIYA proposes a new route to the production of highly sensitive gas sensors based on porous nanoparticle film fabricated by plasma spray physical vapor deposition (PS-PVD). The tin oxide film gas sensors fabricated by PS-PVD, successfully detected formaldehyde at a concentration as low as 20 ppb.



Tin oxide porous nanoparticle film



Gas sensor

Presented
paper

Dr. Kazuyuki Iizuka¹, Dr. Makoto Kambara², Dr. Toyonobu Yoshida²,
Highly sensitive formaldehyde sensors based on catalyst added porous films fabricated by
plasma spray physical vapor deposition, *Sensors and Actuators B* 182 (2013) 250–255.

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