

Single selective gas sensor for detecting flammable gases

ABSTRACT

The analysis and useful gas sensing properties of capillary-attached gas sensor (CGS) have recently been investigated. The aim of the present work was to investigate the possibility of applying CGS as single selective sensor in detecting organic gases. A CGS samples were fabricated and tested by exposure to five different flammable target gases, hydrogen, methanol, ethanol, acetone and 1-butanol. Classic feature extraction and classifiers were employed to analyze the transient response of CGS. Extracted features of fabricated CGS could differentiate between the pure target gases (TG) perfectly. Results indicated this fact that CGS can be applied as a smart single sensor to diagnose TGs.

Keyword: gas sensor, transient response, e-nose, feature extraction