

Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

Research on optimum condition to prepare carbon nano structure using MOCVD TAKERU KANAZAWA, HIROHARU KAWASAKI, TAMIKO OHSHIMA, YOSHIHITO YAGYU, YOSHIAKI SUDA, Sasebo National College of Technology — Carbon nanotubes (CNTs) are promising new materials for a variety of potential applications because of their excellent electrical, mechanical and chemical characteristics. Therefore, CNTs have been produced by various methods such as arc discharge, in a buffer gas, laser ablation, chemical vapor deposition and annealing of nanodiamonds. Recently, CNT-based gas sensors have received considerable attention because of their outstanding properties, such as faster response, higher sensitivity, lower operating temperature and wider variety of gases that may be detected compared with the other types of gas sensors. In this study, we have been prepared CNTs on the Si substrate with metal nanodots on using chemical vapor deposition method. CNTs and nanosize dot structural metal substrates can be prepared on the silicon by using one process in the same chamber. Size of the nanosize dot structural metal on the silicon was about 50~500 nm and dispersion of them is small. Size and density can be controlled by the substrate temperature and mixture ratio of solution. CNTs on the substrate were several hundred in diameter, and density of them can be controlled by substrate temperature and methane gas pressure.

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Date submitted: 01 Jun 2010

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