

Synthesis and Application of Aggregation of Oxide Whiskers

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ABSTRACT

Scientific and technological developments of low-dimension material attract much attention. Especially, investments related to fabrication and application of the whiskers including nanorods and nanowires have been carried by many researchers in recent years. In this article, history of study for the whiskers and related materials is firstly described. As a current issue, terminology that represents one-dimension materials and the self-organization techniques utilized in obtaining functional one-dimension materials are also listed and their importance are explained. Finally, a chemical-vapor-deposition technique to design and fabricate the aggregation of the self-organized oxide whiskers on several substrates, innovated by a research group in the Nagaoka University of Technology, is introduced.

Keywords: Whisker, CVD, Oxide, Phosphor, Field emission, Nanowire, Nanorod