

## ZnO buffer 박막층 위에 성장된 3차원 ZnO 나노구조체의 합성

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### Synthesis of 3D nanostructured flower-like ZnO architecture on ZnO thin-film by hydrothermal process

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**Abstract :** Recently, the control of size, morphology and dimensionality in inorganic materials has been rapidly developed into a promising field in materials chemistry. 3D nanostructured flower-like ZnO architecture with different size and shapes have been simply synthesized via a hydrothermal process, using zinc acetate and ammonium hydroxide as reactants.[1] In this study, the ZnO thin-films were deposited by RF magnetron sputtering in order to get high adhesion and uniformity of 3D nanostructured flower-like ZnO architecture on a SiO<sub>2</sub> substrate. The XRD patterns identified that the obtained nanocrystallized ZnO architecture exhibited a wurtzite structure. SEM images illustrated that the flower-like ZnO bundles consisted of flower-like or chestnut bur, which were characterized by polycrystalline and [0001] preferential orientation.

**Key Words :** 3D flower-like, ZnO nanostructure, hydrothermal process, ZnO thin-films

#### 감사의 글

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#### 참고 문헌

- [1] J. M. Jang et al., "ZnO 3D flower-like nanostructure synthesized on GaN epitaxial layer by simple route hydrothermal process", *Journal of Alloys and Compounds* 463 (2008) 503-510