전력비 변화에 따른 Au Multilayer 위에 증착한 GZOB 박막의 특성

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Dependences of the Power ratio on the properties in GZOB/Au multilayers

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Abstract : Effects of power ratio on the electrical and optical properties of Au based Ga-, B- codoped ZnO(GZOB) thin films were investigated. GZOB thin films on Au based PC flexible substrate were deposited at various power in the range from 50 to 125 W by DC magnetron sputtering. Au layer was fabricated to achieve good electrical conductivity. The presence of additional boron impurity leads to improve structural defects. Thus, the c-axis orientation along (002) plane was enhanced with the increasing of power ratio and the surface morphology of the films showed a homogeneous and nano-sized microstructure. GZOB films grown at 125W were investigated a low resistivity value of $1 \times 10^{-3}\Omega cm$, and a visible transmission of 80% with a thickness of 300nm.

Key Words : GZOB; multilayer; Au; DC magnetron sputtering; power ratio