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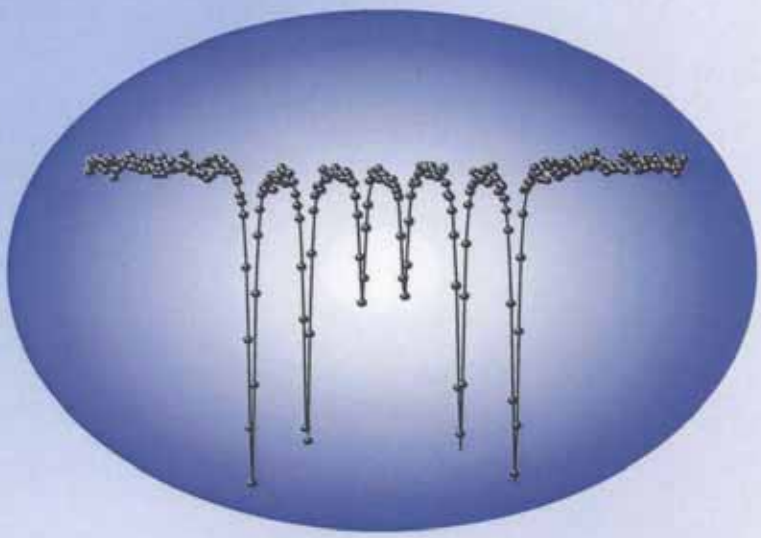
## - 나노 기술 및 응용 -

# 논 문 개 요 집



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# Diffusion barrier properties of WCN thin film between LSMO and Si

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Tungsten has been studied as a low resistivity refractory metallization material in ultra large scale intergrated (ULSI) circuit metallization schemes. Particularly, thermally stable metallization technique is one of the important submicron processes because miniaturization cause serious problems such as an increase in contact resistance due to the silicidation and degradation of shallow junction by the interdiffusion of metal and Si during heat treatment. So we suggest tungsten carbon nitride ternary compound diffusion barrier as a very effective thermal stability and describe the effects of the N and C concentration on phase transition, as well as the metallurgical and barrier properties of W-C-N thin films. In addition, These days the doped perovskite manganites $La_{1-x}Sr_xMnO_3$ have received much attention because of the colossal magnetoresistance (CMR) effect observed in the optimally doped sample (x~0.3). Particularly, the epitaxial thin films possess their potential in technological applications such as magnetoresistive sensors and magnetic random assess memory[1]. In this work, we have studied a tungsten carbon nitride (W-C-N) ternary compound thin film between $La_{0.67}Sr_{0.33}MnO_3$ and Si.

[참고 문헌]

1. I. S. Kim, Y. K. Park, J. Appl. Phys., Vol. 94, No. 12, 15 December 2003.