

## Annealing effects on microstructure and properties of Y(Ni, Mn)O<sub>3</sub> thin films

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### **Abstract**

Epitaxially c-axis oriented thin films of Y(Ni,Mn)O<sub>3</sub> (YNMO) were grown on (100) SrTiO<sub>3</sub> substrates by pulsed laser-ablated deposition technique. High temperature oxygen annealing shows a much improvement in the transition temperature for x = 0.33 film while only a slight increase in T<sub>c</sub> for x = 0.5 film. We suggest that the increase in T<sub>c</sub> may be largely associated with microstructural changes induced by thermal annealing. In order to optimize the magnetic properties of YNMO films, it is necessary to control the initial growth conditions so as to have a microstructure of well-connected grains of uniform size.