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## Raising flux pinning by Ni substitution in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$

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### Abstract

The high- $T_c$   $\text{Y}_{1-x}\text{Ni}_x\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$  samples doped by Ni for Y atom, with  $x=0, 0.002, 0.004, 0.006$  and  $0.01$  were synthesized by the standard solid-state reaction method. The XRD diffraction of samples showed no impurity phase in all samples. Magnetic susceptibility of the samples under two different magnetic fields of  $0.8$  and  $400$  A/m was measured. The results showed that by increasing nickel element to an optimum value, the intragranular connection and flux pinning were improved.

**Keywords:** high- $T_c$  superconductor, magnetic susceptibility, flux pinning

For full article, refer to the Persian section