

Electrodeposition of magnetic nanowires into AAO template

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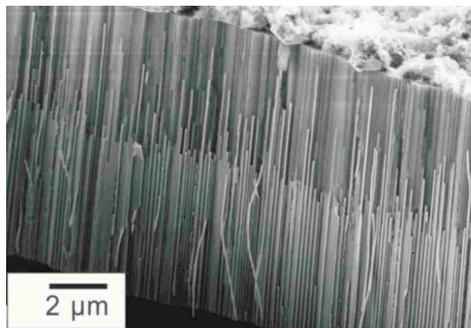
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Abstract

The Co, Fe, and CoFe alloy nanowires have been electrodeposited by using direct and reverse current technique into the pores of AAO membranes. The templates were prepared by a double step anodization process. It was found that the quality of the deposited nanowires depends mostly on the reverse current parameters. More uniformly nanowires were obtained by means of reverse current technique. Additionally this technique is preferable because the process of generation hydroxide on the template surface is significantly slower in comparison with current technique. Magnetic properties of the nanowire arrays were determined with the vibrating sample magnetometer at 305K. In Fig.1 nanowires obtained at the direct current and reverse current technique are shown.

(a)



(b)

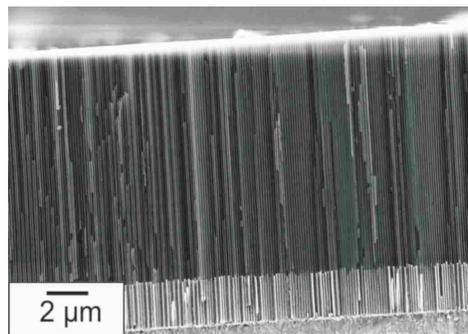


Fig. 1 SEM image of Fe nanowire (a) Direct current (b) Reverse current.