金属学报 1998, 34(10) 1099-1103 DOI: ISSN: 0412-1961 CN: 21-1139/TG

论文

加入Co对Fe-N薄膜的结构与磁性的影响

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摘要： 研究了加入不同含量的Co对Fe-N薄膜结构与磁性的影响. 实验结果表明，Co的原子分数在0-15%范围内薄膜的饱和磁极化强度Js值随Co含量的增加而增大；Co的原子分数为15%时，薄膜的Js达到最大值（2．7T）；随着Co的原子分数进一步增至30%，（Fe，Co）—N薄膜的Js值逐渐降低，但仍高于Fe-Co合金的最大Js值（2．4T）；当Co的原子分数为35%时，（Fe，Co）—N薄膜的Js值低于2．4T，但仍高于纯铁的饱和磁极化强度值（2．1T）.

关键词： （Fe，Co）—N薄膜 掺杂 饱和磁极化强度

EFFECTS OF Co ADDITION ON THE STRUCTURE AND MAGNETIC PROPERTY OF Fe-N FILMS

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Abstract: Effects of Co concentrations on the structure and magnetic properties of Fe-Nfilms were investigated. Experimelltal results show that the saturation magnetic polarization Jsof (Fe,Co)-N films with 0-15%Co (atomic fraction) increases with the Co content, reachinga maximum value of 2.7 T at 15%Co, and then decreases with the increase of the Co content to30%, but the Js of (Fe,Co)-N film with 30%Co is still larger than 2.4 T, which is the maximumJs value of Fe-Co alloy. The Js of (Fe, Co)-N films with 35%Co is smaller than that of 2.4 T,but it is larger than that of pure iron (2.1 T).

Keywords: (Fe Co)-N thin film addition saturation magnetic polarization

收稿日期 1998-10-18 修回日期 1998-10-18 网络版发布日期

DOI:

基金项目:

清华大学理学院基金

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