Sm-Co Thin Films for High Areal Density Recording Media

by Ms. Zhang Lina

Date: 22nd January 2007 (Monday)
Time: 12:00 pm – 1:00pm
Venue: LT 3

Abstract

SmCo has attracted growing attention due to the huge magnetocrystalline anisotropy of SmCo5 phase (Ku > 108 erg/cc). It has been widely considered as a promising potential candidate for ultrahigh density recording media, which need the high anisotropy to overcome the superparamagnetic effect.

In our research, SmCo thin films deposited on MgO (100) single crystal substrate with large magnetocrystalline anisotropy were investigated. Epitaxial growth of the SmCo5 (11-20) films was observed on MgO single crystal substrate with Cr underlayer. The Cr underlayer played a critical role in generating large in-plane coercivity.

Furthermore, with the optimized condition in MgO substrate, we successfully obtained SmCo thin films with high coercivity on corning glass. The magnetic properties of the thin films with different thicknesses and compositions prepared by magnetron sputtering were studied.

Ms. Zhang Lina received her bachelor degree in Material Science & Engineering from Beihang University in 2004. She is a PhD candidate in this department under supervision of Prof Ding Jun and Dr Chen Jingshen of Data Storage Institute. Her research interests mainly focus on development of magnetic recording media.

Ms. Zhang Lina Speaker

Dr Xue Jun Min Host

ALL ARE WELCOME!