

Quick Search: within This Volume/Issue [Search Tips](#)
 10 of 67
[Thin Solid Films](#)
[Volume 181, Issues 1-2](#), 10 December 1989, Pages 101-113

[doi:10.1016/0040-6090\(89\)90477-X](https://doi.org/10.1016/0040-6090(89)90477-X) [Cite or Link Using DOI](#)

Copyright © 1989 Published by Elsevier Science B.V. All rights reserved.

R.f.-diode sputtered amorphous rare earth-transition metal films: Microstructure, stability, and magneto-optical properties

H. -P. D. Shieh*

M. Hong and S. Nakahara

 Electrical and Computer Engineering Dept., Carnegie Mellon University, Pittsburgh, PA 15213, U.S.A.
 AT&T Bell Laboratories, Murray Hill, NJ 07974, U.S.A.

Received 9 March 1989. Available online 17 September 2002.

Abstract

We report the strong correlation of deposition parameters, microstructure and stability of r.f.-diode sputtered magneto-optical thin films studied by transmission electron microscopy and a magneto-optical hysteresis loop tracer. Both argon bleeding pressure and substrate bias strongly affect the microstructure and oxidation resistance of the films. Films sputtered using moderate argon pressures and substrate bias voltages are dense, smooth and morphologically featureless. They are strongly resistant to oxidation. In contrast, low or high argon pressures and substrate bias result in films of high porosity, columnar island-like structure or "sponge-like" morphology. They degrade rapidly in air.

* Presently with IBM Research Division, T.J. Watson Research Center, Yorktown Heights, New York 10598, U.S.A.

This Document

Abstract

Actions

- [Cited By](#)
- [Save as Citation Alert](#)
- [E-mail Article](#)
- [Export Citation](#)

[Thin Solid Films](#)
[Volume 181, Issues 1-2](#), 10 December 1989, Pages 101-113

This Document

Abstract

Actions

- [Cited By](#)
- [Save as Citation Alert](#)
- [E-mail Article](#)
- [Export Citation](#)

 10 of 67