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(71) Applicant: CARNEGIE MELLON UNIVERSITY [US/US]; 5000 Forbes Avenue, Pittsburgh, PA 15213 (US).

(72) Inventors: LAMBETH, David, N.; 118 Buckingham Road, Pittsburgh, PA 15215 (US). LEE, Li-Lien; Apartment 9108, 900 Pepper Tree Lane, Santa Clara, CA 95051 (CN). LAUGHLIN, David, E.; 2357 McNary Boulevard, Pittsburgh, PA 15235-2737 (US).

(74) Agents: ETHRIDGE, Christine, R. et al.; Kirkpatrick & Lockhart LLP, 1500 Oliver Building, Pittsburgh, PA 15222 (US).

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(54) Title: MANGANESE CONTAINING LAYER FOR MAGNETIC RECORDING MEDIA

(57) Abstract

The present invention provides for a magnetic recording media incorporating Mn–containing layers between a substrate and a magnetic layer to provide media having increased coercivity and lower noise. The Mn–containing layer can be incorporated in a rotating, translating or stationary recording media to operate in conjunction with magnetic transducing heads for recording and reading of magnetic data, as well as other applications. The magnetic recording medium of the invention preferably includes a Co or Co alloy film magnetic layer, and Mn–containing layer, preferably comprised of VMn, TiMn, MnZn, CrMnMo, CrMnW, CrMnV, and CrMnTi, and most preferably a CrMn alloy, disposed between the substrate and the magnetic layer to promote an epitaxial crystalline structure in the magnetic layer. The medium can further include seed layers, preferably polycrystalline MgO for longitudinal media, underlayers, and intermediate layers. Underlayers and intermediate layers are comprised of materials having either an A2 structure or a B2–ordered crystalline structure disposed between the seed layer and the magnetic layer. Materials having an A2 structure are preferably Cr or Cr alloys, such as CrV, CrMo, CrW and CrTi. Materials having a B2–ordered structure having a lattice constant that is substantially comparable to that of Cr, such as those preferably selected from the group consisting of NiAl, AlCo, FeAl, FeTi, CoFe, CoTi, CoHf, CoZr, NiTi, CuBe, CuZn, AlMn, AlRe, AgMg, and Al_2FeMn_2, and is most preferably FeAl or NiAl.