Magnetic Properties of CoTbNi and FePtCo Ternary Alloy Thin Films Prepared by DC Magnetron Sputtering for Ultra-high Density Storage Media

Thesis submitted

By

Rajib Kumar Basumatary

Roll No. PHY PHD 02

Regn. No. 057119 of 2017-18

In Partial Fulfilment of the Requirements for the Award of the Degree of

Doctor of Philosophy in Physics

Faculty of Science & Technology

Department of Physics

BODOLAND UNIVERSITY

Kokrajhar-783370

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DEDICATION

I dedicate this thesis to my loving parents and rest of my family who taught me that it is never too late to change careers to achieve goals.

I also like to dedicate this thesis to my Ph.D. supervisors without whose support and encouragement the research works carried out in this thesis would have been impossible.

Lastly, I also dedicate this thesis to almighty god for giving me strength and patience to face all the challenges.

DECLARATION

I hereby declare that this thesis titled "**Magnetic Properties of CoTbNi and FePtCo Ternary Alloy Thin Films Prepared by DC Magnetron Sputtering for Ultra-high Density Storage Media"** is the result of my own research work which has been carried out under the guidance of Dr. Rajeeb Brahma of Bodoland University and Dr. Sandeep Kumar Srivastava of Central Institute of Technology Kokrajhar.

I further declare that this thesis as a whole or any part thereof has not been submitted to any university or institute for award of any degree or diploma.

This thesis contains less than 300 (Three hundred) pages excluding bibliography and captions.

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CERTIFICATE

This is to certify that the work described in the dissertation report entitled *“**Magnetic Properties of CoTbNi and FePtCo Ternary Alloy Thin Films Prepared by DC Magnetron Sputtering for Ultra-high Density Storage Media**” submitted by **Mr. Rajib Kumar Basumatary** ”*, a Ph. D. student in the Department of Physics, Bodoland University, Kokrajhar, Assam (India) for the award of the degree of **Doctor of Philosophy** has been carried out under my guidance and supervision. Mr. Rajib Kumar Basumatary has fulfilled all the requirements under Ph.D. rules and regulations of Bodoland University for submitting his thesis for the award of Ph.D. degree. The thesis is the result of his own-investigation and to the best of my knowledge, this dissertation carried out by the candidate has not been submitted to any other University or Institute for any degree or diploma.

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List of Figures

Figure 1.1. Schematic diagram of M-H hysteresis loop of a ferromagnetic material. 4

Figure 2.1 Schematic illustration of thin film growth by DC Magnetron Sputtering. 25

Figure 2.2 Photos of complete sputtering unit (left), magnetrons (middle) and plasma glow during deposition (right).)……………………………………...26

Figure 2.3 Schematic diagram of 3D imaging of surface topography of specimen by 3D optical profilometer. 27

Figure 2.4 Schematic diagram of imaging of Atomic Force Microscopy. 28

Figure 2.5 Schematic block diagram of a typical FESEM. 29

Figure 2.6 Basic principle of characteristic X-ray generation. (Left) The K-electron is knocked out by incident electron beam. (Right) The electron vacancy in K-shell is filled by electron of higher energy shell by emitting energy in the form of characteristics X-ray. 30

Figure 2.7 Schematic diagram of EDS detection scheme. 31

Figure 2.8 X-ray diffraction by atoms of different crystal planes. 32

Figure 2.9 Schematic diagram of a typical X-ray diffractometer. 33

Figure 2.10 Schematic block diagram of a typical VSM. 34

Figure 2.11 Schematic diagram of quantum design magnetometer. 36

Figure 3.1 Schematic diagram of co-sputtering of CoTbNi ternary alloy using DC magnetron sputtering system. 40

Figure 3.2 3D coloured image of Step height with colour contrast z-scale and line profile of step height of sample-7. 42

Figure 3.3 3D image of step height (middle) of actual film deposited along with line profile (right) and colour contrast z-scale (left) of sample-7. 42

Figure 3.4 EDX spectra of CoTbNi Ternary alloy film without removing the unwanted elements that are not present in the sample. 43

Figure 3.5 EDS spectra of a sample recorded at different locations of the sample to determine the relative composition of the sample. 45

Figure 3.6 Raw SEM image (top) and EDS Elemental colour mapping spectra (bottom) of $(Co_{0.85}Tb_{0.15})_{0.46}Ni_{0.54}$ alloy thin film. 46

Figure 3.7 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.26 thin film. 48

Figure 3.8 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.45 thin film. 48

Figure 3.9 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.60 thin film. 49

Figure 3.10. 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.54 thin film. 49

Figure 3.11. 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.63 thin film. 49

Figure 3.12 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.72 thin film. 50

Figure 3.13 3D coloured image of surface topography with colour contrast z-scale and line profile of as-deposited x=0.81 thin film. 50

Figure 3.14 Plot of variation of S_a and R_a as a function of Ni content of the as-deposited thin films. 51

Figure 3.15 3D coloured image of surface topography with colour contrast z-scale of all in-situ post annealed thin film. 52

Figure 3.16 Plot of variation of surface roughness parameters S_a and R_a of in-situ post annealed films as a function of Ni content. 53

Figure 3.17 Comparative plot of (a) S_a and (b) R_a as a function of as-deposited and in-situ post annealed CoTbNi thin films. 54

Figure 3.18 X-ray diffraction profile of as-deposited CoTbNi ternary alloy thin films. 55

Figure 3.19 Room temperature XRD profile of In-situ post annealed CoTbNi ternary alloy films. 56

Figure 3.20 Room temperature M-H hysteresis loop of $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ films with (a) x=0.26, (b) x=0.45, (c) x=0.54 and (d) x=0.60. 58

Figure 3.21 In-plane and out-of-plane M-H hysteresis loop of as-deposited $(Co_{0.85}Tb_{0.15})_{0.37}Ni_{0.63}$ thin film measured at room temperature. 59

Figure 3.22 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Co_{0.85}Tb_{0.15})_{0.37}Ni_{0.63}$ alloy thin film. 60

Figure 3.23 In-plane and out-of-plane M-H hysteresis loop of as-deposited $(Co_{0.85}Tb_{0.15})_{0.28}Ni_{0.72}$ alloy film measured at room temperature. 61

Figure 3.24 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Co_{0.85}Tb_{0.15})_{0.28}Ni_{0.72}$ alloy thin film. 61

Figure 3.25 In-plane and out-of-plane M-H hysteresis loop of as-deposited $(Co_{0.85}Tb_{0.15})_{0.19}Ni_{0.81}$ alloy thin film measured at room temperature. 62

Figure 3.26 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Co_{0.85}Tb_{0.15})_{0.19}Ni_{0.81}$ alloy thin film. 63

Figure 3.27 Plot of variation of coercive field (H_C) of as-deposited CoTbNi films as a function of Ni-content of the films. 64

Figure 3.28 Plot of variation of (a) saturation magnetization and remanent magnetization, and (b) squareness as a function of Ni content of as-deposited CoTbNi thin films. 65

Figure 3.29 Plot of variation of effective anisotropic constant K_{eff} as function of CoTbNi ternary alloy films. 66

Figure 3.30 Temperature dependent magnetization measurement under zero-field cooled (ZFC) and field-cooled (FC) condition of $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ aloy thin films. 68

Figure 3.31 Room temperature M-H curve of in-situ post annealed $(Co_{0.85}Tb_{0.15})_{0.37}Ni_{0.63}$ ternary alloy film. 70

Figure 3.32 Room temperature M-H curve of in-situ post annealed $(Co_{0.85}Tb_{0.15})_{0.28}Ni_{0.72}$ ternary alloy film. 70

Figure 3.33 Room temperature M-H curve of in-situ post annealed $(Co_{0.85}Tb_{0.15})_{0.19}Ni_{0.91}$ ternary alloy film. The annealing of the film was carried out at 400℃ (673K). 71

Figure 3.34 Plot of variation of H_C as a function of Ni content of the annealed $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ ternary alloy thin films. 73

Figure 3.35 Plot of variation of M_r and M_S as a function of Ni content of in-situ post annealed $(Co_{0.85}Tb_{0.15)1-x}Ni_x$ thin films. 73

Figure 3.36 Plot of squareness (M_r/M_S) of M-H curves as a function of Ni content of in-situ post annealed $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ thin films. 74

Figure 3.37 Comparative plot of variation H_C and M_S as a function of Ni content of as-deposited and in-situ post annealed $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ thin films. 76

Figure 3.38 Comparative plot of variation M_r and squareness (M_r/M_S) as a function of Ni content of as-deposited and in-situ post annealed $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ thin films. 78

Figure 3.39 A simple example of bond orientation of four atom unit under in plane compressive stress. The solid lines represent atomic bonds. 78

Figure 4.1 Schematic representation of co-sputtering of FePt and Co under three deposition conditions. 82

Figure 4. 2 Typical 3D image along with colour contrast z-scale and line profile of sample with $Fe_{40}Pt_{60}$ target deposited at 25 watt and Co target at 75 watt respectively for optimization of deposition rate (top panel) and actual film (bottom panel) 83

Figure 4.3 EDX spectra of FePtCo ternary alloy thin films with Co deposited at (a) 25, (b) 50, (c) 75 and (d) 100 watt. 85

Figure 4.4 Coloured 3D image (middle) and line profile (right) along with colour contrast z-scale (left) of as-deposited FePtCo ternary alloy thin films. 88

Figure 4.5 2D and 3D AFM image of as-deposited FePt and FePtCo alloy thin films. 89

Figure 4.6 Plot of S_a, R_a obtained from 3D optical profilometer, and R_a obtained by AFM as a function of Co content of as-deposited FePtCo films. 90

Figure 4.7 3D image of film surface (middle), colour contrast z-scale (left) and line profile (right) of in-situ annealed FePt and FePtCo alloy thin films. 91

Figure 4.8 2D and 3D AFM image of in-situ annealed FePt and FePtCo alloy thin films. 92

Figure 4.9 Plot of S_a (black) and R_a (red) obtained using 3D optical profilometer, and R_a (blue) obtained by AFM a function of film composition of in-situ annealed FePtCo alloy thin films. 93

Figure 4.10 3D image of film surface (middle), colour contrast z-scale (left) and line profile (right) of FePtCo alloy thin films with Cu-underlayer. 95

Figure 4.11 2D and 3D AFM image of Cu-underlayered FePtCo alloy thin films. 96

Figure 4.12 Plot of film surface roughness of Cu-underlayered FePtCo films obtained by optical profilometer and AFM. 97

Figure 4.13. Comparative plot of S_a obtained by optical profilometer (left) and R_a obtained by AFM (right) of all prepared FePtCo thin films. 97

Figure 4.14 Room temperature XRD profile along with Rietveld refinement fit of as-deposited FePtCo thin films. 100

Figure 4.15 Plot of lattice parameter (left) and average crystallite size of as-deposited FePtCo films as a function of Co content of the films. 101

Figure 4.16 Room temperature XRD profile along with Rietveld refinement fit of in-situ annealed FePtCo thin films. 103

Figure 4.17 Plot of lattice parameter (left) and average crystallite size of in-situ annealed FePtCo films as a function of Co content of the films................... 104

Figure 4.18 Room temperature XRD profile along with Rietveld refinement fit of Cu-underlayered FePtCo thin films. 105

Figure 4.19 Plot of lattice parameter (left) and average crystallite size of Cu-underlayered FePtCo films as a function of Co content of the films. 106

Figure 4.20 Plot of lattice constant (left) and average crystallite size (right) of all FePtCo thin films deposited under three conditions. 107

Figure 4.21 Room temperature M-H hysteresis curve of as-deposited pure FePt alloy thin film. 109

Figure 4.22 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $Fe_{40}Pt_{60}$ alloy thin film. 110

Figure 4.23 Room temperature M-H hysteresis curve of as-deposited 11 at. % Co doped FePt alloy thin film. 111

Figure 4.24 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Fe_{0.4}Pt_{0.6})_{0.89}Co_{0.11}$ alloy thin film. 112

Figure 4.25 Room temperature M-H hysteresis curve of as-deposited 17 at. % Co doped FePt alloy thin film. 113

Figure 4.26 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Fe_{0.4}Pt_{0.6})_{0.83}Co_{0.17}$ alloy thin film. 113

Figure 4.27 Room temperature M-H hysteresis curve of as-deposited 28 at. % Co doped FePtCo alloy thin film. 115

Figure 4.28 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Fe_{0.4}Pt_{0.6})_{0.72}Co_{0.28}$ alloy thin film. 115

Figure 4.29 Room temperature M-H hysteresis curve of as-deposited 30 at. % Co doped FePt alloy thin film. 117

Figure 4.30 Calculation of area difference enclosed by in-plane and out-of-plane initial magnetization curves of $(Fe_{0.4}Pt_{0.6})_{0.70}Co_{0.30}$ alloy thin film. 117

Figure 4.31 plot of variation of (a) H_C, (b) M_S and M_r, (c) squareness and (d) K_{eff} as a function of Co content of all as-deposited FePtCo alloy thin fims. The inset of (b), (c) and (d) represents the magnetic parameters obtained from M-H curves without subtracting substrate contribution. 119

Figure 4.32 Room temperature M-H hysteresis curves of (a) pure FePt, (b) 11 at. % and (c) 17 at. % Co doped in-situ annealed FePtCo films. 124

Figure 4.33 Room temperature M-H hysteresis curves of (a) 28 and (b) 30 at. % Co doped in-situ annealed FePtCo films. 125

Figure 4.34 Calculation of difference in area enclosed by in-plane and out-plane M-H hysteresis loop of in-situ annealed thin films by integration. The shaded area in grey colour represents the difference in area which is the quantitative value of K_{eff}. 126

Figure 4.35 Plot of variation of (a) coercivity, (b) Magnetization, (c) squareness and (d) K_{eff} as a function of Co content of in-situ annealed FePtCo films. The inset of figure (b), (c) and (d) represents the magnetic parameters obtained from M-H curves without subtracting substrate contribution. 127

Figure 4.36 Room temperature M-H hysteresis curves of (a) 11 and (b) 17 at. % Co doped FePtCo films deposited on 2 nm Cu-underlayer. 131

Figure 4.37 Room temperature M-H hysteresis curves of (a) 28 and (b) 30 at. % Co doped FePtCo films deposited on 2 nm Cu underlayer. 132

Figure 4.38 Calculation of difference in area enclosed by in-plane and out-plane M-H hysteresis loop of Cu-underlayered thin films by integration. The shaded area in grey colour represents the difference in area which is the quantitative value of K_{eff}. 133

Figure 4.39 Plot of variation of (a) coercivity, (b) Magnetization, (c) squareness and (d) K_{eff} as a function of Co content of Cu-underlayered FePtCo films. The inset (b), (c) and (d) represents the magnetic parameters obtained from M-H curves without subtracting substrate contribution. 134

Figure 4.40 Plot of variation of (a) in-plane H_C, (b) out-plane H_C, (c) M_S, (d) M_r, (e) squareness and (f) K_{eff} as a function of Co content of FePtCo films deposited under three conditions.. 137

List of Tables

Table 3.1 Deposition rate of each sputtered thin films and deposition time of actual film deposition. 41

Table 3.2 Determination of compositions of the CoTbNi alloy thin films using EDX spectra. 44

Table 3.3 Compositions of CoTbNi ternary alloy thin films with Ni deposited at different sputtering powers. 44

Table 3.4 Surface roughness parameters S_a and R_a of as-deposited CoTbNi thin films obtained by 3D optical profilometer. 50

Table 3.5 Surface roughness of in-situ post annealed CoTbNi films obtained by 3D optical profilometer. 53

Table 3.6 Coercivity (H_C), saturation magnetization (M_S), remanent magnetization (M_r) and squareness (M_r/M_S) of as-deposited $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ thin films obtained from RT M-H measurement. 57

Table 3.7 Room temperature magnetic parameters of as-deposited $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ alloy thin films. The IP and OOP represent in-plane and out-of-plane respectively. 63

Table 3.8 Magnetic parameters of in-situ post annealed $(Co_{0.85}Tb_{0.15})_{1-x}Ni_x$ ternary alloy thin films obtained from room temperature M-H measurement. The IP and OOP represent in-plane and out-of-plane respectively. 72

Table 4.1 Deposition rate, deposition time and thickness of actual thin films sputtered at different powers. 83

Table 4.2 Composition of FePtCo ternary alloy thin films obtained from EDX spectrum. 84

Table 4.3 Measured values of S_a and R_a measured by both 3D optical profilometer and AFM of as-deposited FePtCo thin films. 87

Table 4.4 Surface roughness S_a and R_a measured by 3D optical profilometer and AFM. 93

Table 4.5 Surface roughness S_a and R_a of FePtCo films with Cu-underlayer measured by 3D optical profilometer and AFM. 94

Table 4.6 Lattice parameters obtained from Rietveld refinement and goodness of fitting, χ2, and average crystallite size of as-deposited films...................... 99

Table 4.7 Lattice parameters obtained from Rietveld refinement and goodness of fit (χ^2), and average crystallite size of in-situ annealed films. 102

Table 4.8 Lattice parameters obtained from Rietveld refinement and goodness of fit (χ2), and average crystallite size of Cu-underlayered FePtCo films. ... 106

Table 4.9 Coercivity, saturation magnetization, remanent magnetization, squareness of room temperature in-plane and out-of-plane M-H hysteresis curve and effective anisotropic constant (K_{eff}) of as-deposited FePt alloy film obtained after substrate correction.. 109

Table 4.10 Coercivity, saturation magnetization, remanent magnetization, squareness of room temperature in-plane and out-of-plane M-H hysteresis curve and K_{eff} of as-deposited $(Fe_{0.4}Pt_{0.6})_{0.89}Co_{0.11}$ alloy film obtained after substrate correction.. 111

Table 4.11 Coercivity, saturation magnetization, remanent magnetization, squareness of room temperature in-plane and out-of-plane M-H hysteresis curve and K_{eff} of as-deposited $(Fe_{0.4}Pt_{0.6})_{0.83}Co_{0.17}$ alloy film obtained after substrate correction………………………………………………………………… 112

Table 4.12 Coercivity, saturation magnetization, remanent magnetization, squareness of room temperature in-plane and out-of-plane M-H hysteresis curve and effective anisotropic constant (K_{eff}) of as-deposited $(Fe_{0.4}Pt_{0.6})_{0.72}Co_{0.28}$ alloy film obtained after substrate correction.. 114

Table 4.13 Coercivity (H_C), saturation magnetization (M_S), remanent magnetization (M_r), squareness (M_r/M_S) of room temperature in-plane and out-of-plane M-H hysteresis curve and effective anisotropic constant (K_{eff}) of as-deposited $(Fe_{0.4}Pt_{0.6})_{0.70}Co_{0.30}$ alloy film obtained after substrate correction.. 116

Table 4.14 Coercivity (H_C), saturation magnetization (M_S), remanent magnetization (M_r), squareness (M_r/M_S) of room temperature in-plane and out-of-plane M-H hysteresis curve and effective anisotropic constant (K_{eff}) of all in-situ annealed FePtCo alloy films obtained after subtracting the substrate contribution. 123

Table 4.15 Coercivity (H_C), saturation magnetization (M_S), remanent magnetization (M_r), squareness (M_r/M_S) of room temperature in-plane and out-of-plane M-H hysteresis curve and effective anisotropic constant (K_{eff}) of all in-situ annealed FePtCo alloy films obtained after subtracting the substrate contribution.. 130