國立台灣大學技術行銷表

台大案號: 02A-100105

產學合作中心聯絡人： 電話： e-mail：

產品/技術名稱	具垂直磁異向性之單層不連續島狀鐵鉑合金薄膜
發明人/單位	林哲平、郭博成、陳勝吉、沈智隆、黃凱澤、張慶瑞
產品/技術說明	本發明將厚度 1 nm 之 FePt 合金薄膜鍍製於玻基板上經 700℃ 退火 10 分鐘後可形成島狀 FePt 晶粒，晶粒的尺寸介於 2.5 至 5 nm 之間，島狀 FePt 晶粒的密度高達 1.37×10^{13} island/inch^2，其 $H_{c\perp}$ 約為 21.2 kOe，$H_{c//}$ 約為 10.2 kOe ，其 $S_\perp$ 約為 0.8，$S_{//}$ 約為 0.32
應用範圍	例如任何相關之磁記錄媒體。
產品/技術優勢	本發明可更進一步簡化膜層結構與降低圖案化磁記錄媒體製造成本，具有產品或技術之優勢，並具有應用於垂直磁異向性圖案化磁記錄媒體之可行性。
市場潛力	本發明之奈米尺寸的島狀 FePt 晶粒分佈均勻且島狀 FePt 晶粒的密度高達 1.37×10^{13} island/inch^2，如此不連續島狀磁性薄膜中的磁性島狀物之間交換耦合效應較低，可降低媒體雜訊並大幅提高磁記錄密度，製程相對一般圖案化磁記錄媒體簡單而且可大面積製作。
產品/技術 智財權保護方式	

Marketing Abstract of NTU's Invention Disclosure

NTU's docket no:_____

TTO contact : Tel : e-mail :

Title	DISCONTINUOUS SINGLE-LAYERED FEPT ISLAND-FILM WITH A PERPENDICULAR MAGNETIC ANISOTROPY
Inventor (s)	Ger-Pin Lin, Po-Cheng Kuo, Sheng-Chi Chen, Chih-Lung Shen, Kai-Tze Huang, Ching-Ray Chang
Brief Description	($\leq$ 100 words of non-confidential information) In this invention, the particle size distributed between 2.5 to 5 nm for 1-nm thick FePt island film on glass that annealed at 700 °C for 10 minutes and the density of islands was 1.37×10^{13} islands/inch^2. The $H_{c\perp}$ and $H_{c//}$ of this FePt film were about 21.2 kOe and 10.2 kOe, respectively. The $S_\perp$ and $S_{//}$ of this FePt film were about 0.8 and 0.32, respectively.
Fields of Application	Any related magnetic recording media.
Advantages	This invention can further simplify the structure of magnetic recording media and reduce the manufacturing cost of pattern media. It posses competitiveness with other magnetic recording media product or technology, and can be used for pattern media with perpendicular magnetic anisotropy.
Market Potential	The average grain size of this invention was distributed between 2.5 to 5 nm, and the density of islands is 1.37×10^{13} islands/inch^2. A discontinuous and well-separated nano-size island magnetic film can reduce the exchange coupling of the magnetic recording media and increase the recording density. It is a simpler method to fabricate large-area patterned media.
IP Right(s)	