Report for Wood's paper: The Feasibility of Magnetic Recording at 10 Terabits Per Square Inch on Conventional Media

Kamoliddin Mavlonov
Graduate School of Science and Engineering
Ehime University
3 Bunkyou-cho Matsuyama Ehime 790-8577, Japan
kamol@koblab.cs.ehime-u.ac.jp

***Abstract*—This report is purely based on my own comprehension of this paper.**

I. Introduction

In 2000, Wood publishes a paper: The Feasibility of Magnetic Recording at 1 Terabits Per Square Inch [1]. It says, that conventional recording would reach a limit at around 1 Terabit/in^2.

However, in 2009, he admits [4] the current hard disk drive (HDD) technology is already reaching this limit. Wood is right that to assure continued capacity growth in HDD need alternative technologies: heat-assisted magnetic recording (HAMR) [2] and bit patterned media (BPM) [3].

Toward proof of the concept, the Advanced Storage Technology Consortium (ASTC) [5] released the 2014 roadmap for HDD area density as shown in Fig. 1.

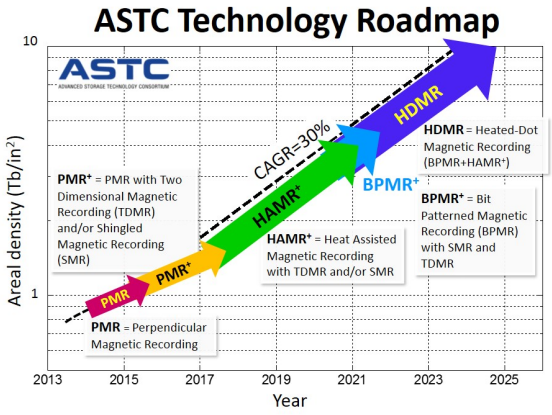

Fig. 1. Data synchronization between two devices

As you can see from Fig. 1, current HDD technology is Perpendicular recording [6].

II. Shingled Writing

A. Subsection Heading Here

Subsection text here.

1) Subsubsection Heading Here: Subsubsection text here.

III. Conclusion

The conclusion goes here.

Acknowledgment

The authors would like to thank...

References

[1] R. Wood, *The feasibility of magnetic recording at 1 terabit per square inch*, IEEE Trans. Magn., vol. 36, pp. 3642, Jan. 2000.
[2] R. Rottmeyer et al., *Heat-assisted magnetic recording*, IEEE Trans. Magn., vol. 42, no. 10, pp. 24172421, Oct. 2006.
[3] B. Terris, T. Thomson, and G. Hu, *Patterned media for future magnetic data storage*, Microsyst. Technol., vol. 13, no. 2, pp. 189196, Nov. 2006.
[4] R. Wood, M. Williams, A. Kavcic, J. Miles, *The Feasibility of Magnetic Recording at 10 Terabits Per Square Inch on Conventional Media*, IEEE Trans. Magn., vol. 45, pp. 917-923, Feb. 2009.
[5] ASTC Technology Roadmap - 2014 v8, http://idema.org/?page_id=416, 2014.
[6] *Perpendicular Magnetic Recording Technology*, HGST, a Western Digital company, Nov, 2007.