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

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***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.

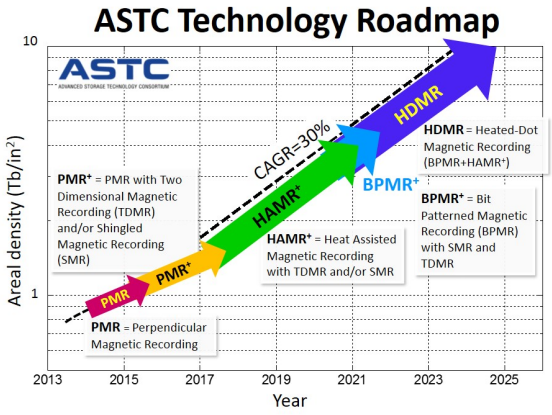

Fig. 1. Data synchronization between two devices

Figure 1 shows the current HDD technology is Perpendicular recording [6] and future HDD technologies currently in development include: HAMR and BPM with Two Dimensional Magnetic Recording (TDMR) [7] and Shingled Magnetic Recording (SMR) [8]

A. HAMR

HAMR uses temperature as well as magnetism.

II. Shingled Writing

A. Subsection Heading Here

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III. Conclusion

The conclusion goes here.

Acknowledgment

The authors would like to thank...

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