

Exercise No. 2
Algorithms and Methods for Distributed Storage
Winter 2008/2009

Exercise 3 *Hard Disk Performance*

1. Enumerate all techniques presented in the lecture to improve the **capacity** of a hard disk.
2. Enumerate all techniques presented in the lecture to improve the **speed** (i.e. overall data throughput and latency) of a hard disk.

Exercise 4 *Flux Reversal Encoding*

Consider the FM, MFM and RLL encoding of the lecture.

1. Construct for each encoding a bit sequence of length 16 with the maximum number of flux reversals.
2. Compute the minimum and maximum distance of flux reversals for each encoding.
3. Assume that the minimum distance of flux reversals on a disk is one unit. Compute the density (bits per unit) of all three codes.
4. Find a new code with a better density than all of three encodings.