

Title (en)

DATA STORAGE DEVICE AND METHOD

Title (de)

EINRICHTUNG UND VERFAHREN ZUR DATENSPEICHERUNG

Title (fr)

DISPOSITIF ET PROCÉDÉ DE STOCKAGE DE DONNÉES

Publication

**EP 2153445 A1 20100217 (EN)**

Application

**EP 08718936 A 20080331**

Priority

- GB 2008001116 W 20080331
- GB 0708957 A 20070509
- US 91700507 P 20070509

Abstract (en)

[origin: WO2008139131A1] A serial magnetic mass storage device and associated data storage method is provided based on magnetic nanowires that support single magnetic domains separated by domain walls. Each data-storing nanowire has a plurality of crossing nanowires along its length, forming cross junctions that constitute domain wall pinning sites. Data is fed through each data-storing nanowire by moving the magnetic domains under the action of a field that alternates between alignment and anti-alignment with the crossing nanowires. The data is encoded in the chirality of the domain walls, with up and down chirality transverse domain walls being used to encode 0's and 1's. Data is clocked into each nanowire with suitable nucleation generators capable of nucleating domains with domain walls of pre-defined chirality. Data is clocked out of each nanowire with suitable magnetic field sensors that sense the chirality.

IPC 8 full level

**G11C 19/08** (2006.01)

CPC (source: EP)

**G11C 11/14** (2013.01); **G11C 19/08** (2013.01); **G11C 19/0816** (2013.01)

Citation (search report)

See references of WO 2008139131A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

**WO 2008139131 A1 20081120**; CN 101681680 A 20100324; EP 2153445 A1 20100217

DOCDB simple family (application)

**GB 2008001116 W 20080331**; CN 200880015220 A 20080331; EP 08718936 A 20080331