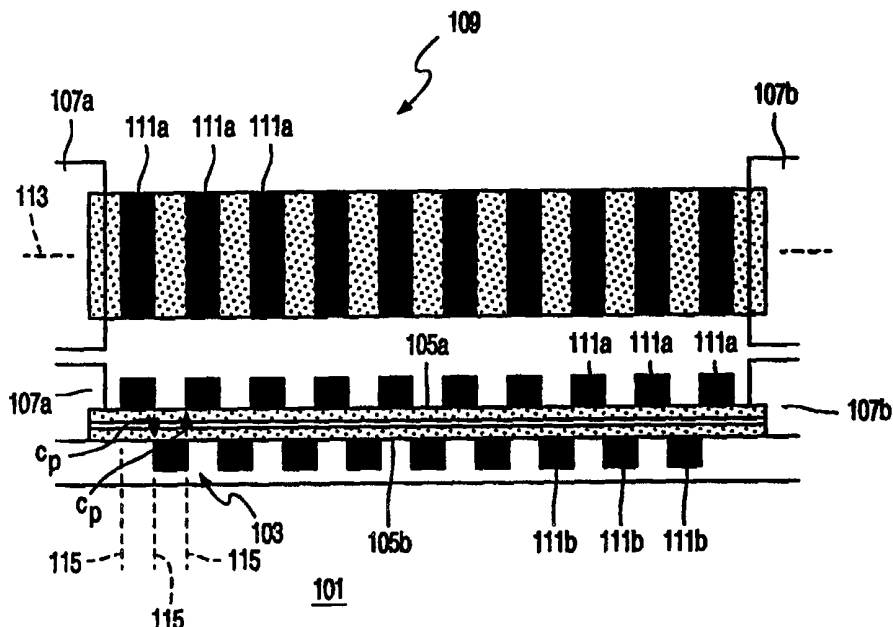




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>7</sup> : <b>H01L 43/08, G01R 33/09, G11B 5/39, G11C 11/16</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/56074</b></p> <p>(43) International Publication Date: 4 November 1999 (04.11.99)</p>
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(54) Title: ELEMENT COMPRISING A LAYER STRUCTURE AND A CURRENT-DIRECTING MEANS



## (57) Abstract

Element comprising a substrate (101) having a layer structure (103) bounded by two parallel main faces (105a, 105b) with at least two layers of mutually different magnetical behavior. The layer structure has a zone (109) which, viewed in a direction parallel to the main faces, extends between spaced electric connection areas (107a, 107b). A current-directing means is present in this zone for producing, during current passage, a current component ( $c_p$ ) directed transversely to the layer structure, which means comprises at least one electric conductor (111a, 111b) on at least one of the main faces.

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**INTERNATIONAL SEARCH REPORT**

International application No.  
**PCT/IB 99/00643**

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>
<b>IPC7: H01L 43/08, G01R 33/09, G11B 5/39, G11C 11/16</b> According to International Patent Classification (IPC) or to both national classification and IPC
<b>B. FIELDS SEARCHED</b>
Minimum documentation searched (classification system followed by classification symbols)
<b>IPC7: G01R, G11B, G11C, H01L</b>
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
<b>SE,DK,FI,NO classes as above</b>
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5474833 A (PATRICK ETIENNE ET AL), 12 December 1995 (12.12.95), see whole document, cited in the application  --	1-12
A	US 5627704 A (MARCOS M. LEDERMAN ET AL), 6 May 1997 (06.05.97), see whole document  --	1-12
A	US 5636093 A (MARTINUS A.M. GIJS ET AL), 3 June 1997 (03.06.97), column 5, line 30 - column 6, line 10, figure 4  --	9-12

Further documents are listed in the continuation of Box C.       See patent family annex.

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Date of the actual completion of the international search <b>6 December 1999</b>	Date of mailing of the international search report <b>14-12-1999</b>
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer <b>Bo Gustavsson/MN</b> Telephone No. +46 8 782 25 00

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International application No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Appl. Phys. Lett, Volume 66, No 14, April 1995, M.A.M. GIJS ET AL, "Perpendicular giant magnetoresistance ov Co/Cu multilayers deposited under an angle on grooved substrates", page 1839 - page 1841, see whole document, cited in the application  --	1-12
A	DE 19534856 A1 (FORSCHUNGSZENTRUM JÜLICH GMBH), 27 March 1997 (27.03.97), see whole document  -- -----	13

# INTERNATIONAL SEARCH REPORT

Information on patent family members

02/11/99

International application No.

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