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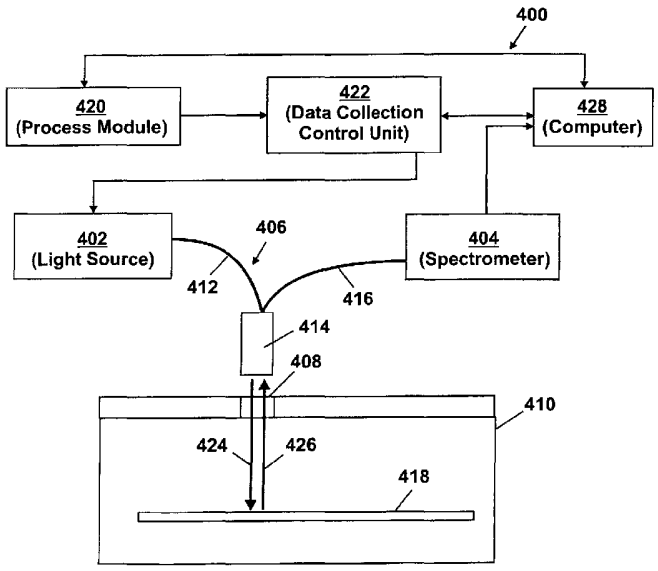
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[Continued on next page]

(54) Title: METHOD FOR CONTROLLING A RECESS ETCH PROCESS



(57) Abstract: A method of controlling a recess etch process for a multilayered substrate having a trench therein and a column of material deposited in the trench includes determining a first dimension from a surface of the substrate to a reference point in the substrate by obtaining a measured net reflectance of at least a portion of the substrate including the trench, computing a modeled net reflectance of the portion of the substrate as a weighted incoherent sum of reflectances from n1 different regions constituting the portion of the substrate, determining a set of parameters that provides a close match between the measured net reflectance and the modeled net reflectance, and extracting the first dimension from the set of parameters; computing an endpoint of the process as a function of the first dimension and a desired recess depth measured from the reference point; and etching down from a surface of the column of material until the endpoint is reached.

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, INSPEC, IBM-TDB, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BOSCH-CHARPENAY S ET AL: "REAL-TIME ETCH-DEPTH MEASUREMENTS OF MEMS DEVICES" JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, IEEE INC. NEW YORK, US, vol. 11, no. 2, April 2002 (2002-04), pages 111-117, XP001125204 ISSN: 1057-7157 page 113-114; figure 5 ---	1-19
X	US 6 275 297 B1 (ZALICKI PIOTR S) 14 August 2001 (2001-08-14) column 4-7; figures 1-4 ---	1-19
X	US 5 900 633 A (ROSENTHAL PETER A ET AL) 4 May 1999 (1999-05-04) column 9-10; figures 1,3,5 ---	1-19

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Name and mailing address of the ISA	Authorized officer
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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