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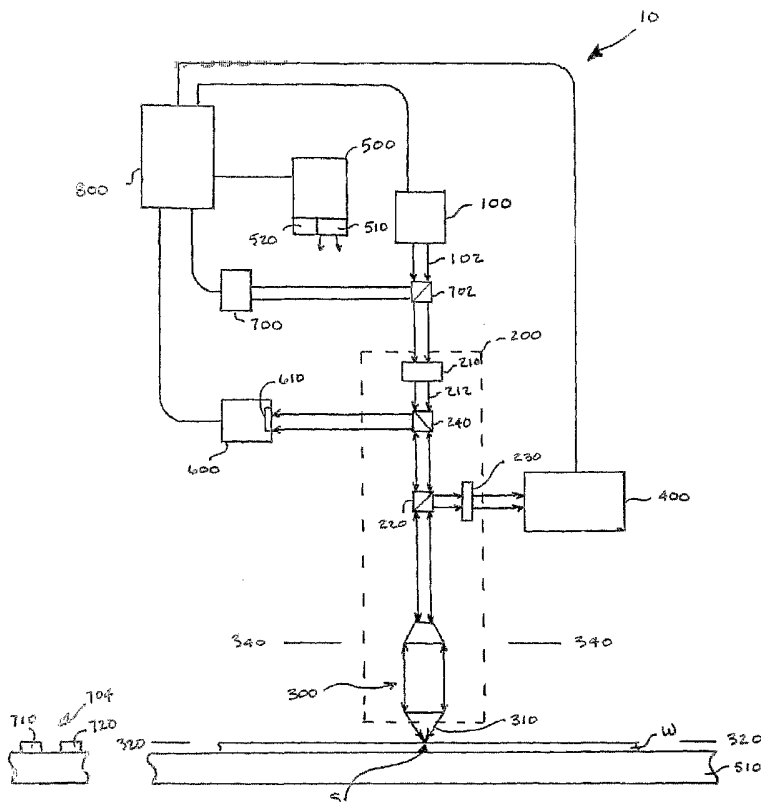
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[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR ENHANCED CRITICAL DIMENSION SCATTEROMETRY



(57) Abstract: Scatterometers and methods of using scatterometry to determine several parameters of periodic microstructures, pseudo-periodic structures, and other very small structures having features sizes as small as 100 nm or less. Several specific embodiments of the present invention are particularly useful in the semiconductor industry to determine the width, depth, line edge roughness, wall angle, film thickness, and many other parameters of the features formed in microprocessors, memory devices, and other semiconductor devices. The microstructures are illuminated with two beams of different ultra-violet wavelengths.



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INTERNATIONAL SEARCH REPORT

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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)
G01B G01N G03F H01L

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, WPI Data, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	<p>US 5 889 593 A (BAREKET ET AL) 30 March 1999 (1999-03-30)</p> <p>column 1, line 7 - line 14</p> <p>column 3, line 21 - column 4, line 32 column 4, line 61 - column 8, line 63 column 9, line 26 - line 37 claim 1; figures 3,4,7 ----- -/--</p>	<p>1-4,6,7, 9,10,14, 20 5,8, 11-13, 15-19, 21-24</p>

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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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.
X	US 2004/246481 A1 (SANDUSKY JOHN V) 9 December 2004 (2004-12-09)	1,3,4,19
A	paragraphs [0003], [0017], [0018], [0022], [0023] paragraph [0046] - paragraph [0058] paragraph [0061] - paragraph [0065] paragraph [0071] figures 1-5	2,5-18, 20-24
A	----- US 6 812 045 B1 (NIKOONAHAD MEHRDAD ET AL) 2 November 2004 (2004-11-02) column 3, line 4 - line 44 column 37, line 57 - column 45, line 54 figures 3,7,10,11 -----	1-24

INTERNATIONAL SEARCH REPORT

Information on patent family members

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