

Title (en)  
AUTOMATIC SEMICONDUCTOR SURFACE INSPECTION APPARATUS AND METHOD.

Title (de)  
SELBSTTÄTIGES HALBLEITER-OBERFLÄCHENKONTROLLGERÄT UND VERFAHREN.

Title (fr)  
PROCEDE ET APPAREIL D'INSPECTION AUTOMATIQUE D'UNE SURFACE DE SEMICONDUCTEUR.

Publication  
**EP 0119198 A4 19860708 (EN)**

Application  
**EP 82903370 A 19820920**

Priority  
US 8201277 W 19820920

Abstract (en)  
[origin: WO8401212A1] An apparatus and method for the automatic inspection of a semiconductor wafer surface employs dark field illumination (12) for illuminating a wafer surface (20) to detect the material edges thereon. The surface (20) is scanned (30, 52) and an edge analysis (14) is performed for automatically determining material edge boundaries from the reflected energy spatial distribution. The edge boundaries are compared (126) with a reference pattern (120) and further analysis (128) determines the location of boundary disagreements between the material boundaries and the reference pattern. A report (130) is generated which can include for example, reticle cleaning or replacement information, defect locations, and defect classification including "killer defects".

IPC 1-7  
**G01B 11/00**; **G01N 21/47**; **G06G 9/00**

IPC 8 full level  
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CPC (source: EP)  
**G01N 21/956** (2013.01); **G06T 7/001** (2013.01); **G06T 7/70** (2016.12); **G06T 2207/30148** (2013.01)

Citation (search report)  
• [X] US 4347001 A 19820831 - LEVY KENNETH, et al  
• [X] DE 2700252 A1 19780706 - LICENTIA GMBH  
• [A] US 4213150 A 19800715 - REIS JAMES J [US], et al  
• [A] US 3944369 A 19760316 - CUTHBERT JOHN DAVID, et al  
• [E] US 4421410 A 19831220 - KARASAKI KOICHI [JP]  
• [Y] PATENTS ABSTRACTS OF JAPAN, vol. 5, no. 64 (P-59)[736], 30th April 1981; & JP - A - 56 16 804 (HITACHI SEISAKUSHO K.K.) 18-02-1981  
• [A] IBM TECHNICAL DISCLOSURE BULLETIN, vol. 17, no. 4, September 1974, pages 1147-1148, New York, US; J.S. COOK et al.: "Dark-field inspection tool for semi conductor devices"

Designated contracting state (EPC)  
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DOCDB simple family (application)  
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