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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number
WO 2004/061439 A1

(51) International Patent Classification[7]: G01N 21/956, 21/95, G06T 7/00

(21) International Application Number:
PCT/US2003/033624

(22) International Filing Date: 23 October 2003 (23.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/324,261 19 December 2002 (19.12.2002) US

(71) Applicant: MOTOROLA, INC., A CORPORATION OF THE STATE OF DELAWARE [US/US]; 1303 East Algonquin Road, Schaumburg, IL 60196 (US).

(72) Inventors: BRANKNER, Keith; 9903 Marseilles Drive, Austin, TX 78750 (US). SCHRAUB, David, M.; 194 Carmen Hill Lane, Bastrop, TX 78602 (US).

(74) Agents: GODDARD, Patricia, S. et al.; SPS PATENT OPERATION MANAGER - ON BEHALF OF MOTOROLA, INC., Corporate Law Department, Intel. Prop. Sect., 7700 West Parmer Lane, MD: TX32/PL02, Austin, TX 78729 (US).

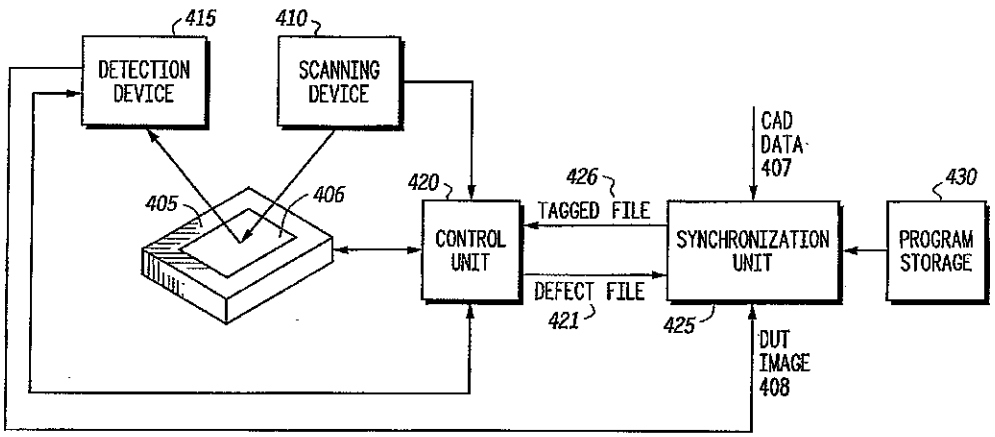
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

[Continued on next page]

(54) Title: TRANSLATING DETECTED WAFER DEFECT COORDINATES



400

(57) Abstract: Systems and methods are described for translating detected wafer defect coordinates to reticle coordinates using CAD data. A wafer inspection image is provided and coordinates of potential defects in the wafer are determined. Then the wafer inspection image is converted into a predetermined image format. CAD data for the device under test is then used to produce a second image, also in the predetermined image format. The CAD-derived image and the wafer-derived image are then aligned, and the coordinates of potential defects in the wafer are converted into CAD coordinates. The CAD coordinates are then used to navigate through the reticle for the wafer in order to locate reticle defects corresponding to the detected wafer defects.

WO 2004/061439 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.