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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
6 January 2011 (06.01.2011)

PCT

(10) International Publication Number
WO 2011/002804 A3

(51) International Patent Classification:
H05H 1/24 (2006.01) *G06F 17/40* (2006.01)

(21) International Application Number:
PCT/US2010/040468

(22) International Filing Date:
29 June 2010 (29.06.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/222,102	30 June 2009 (30.06.2009)	US
61/222,024	30 June 2009 (30.06.2009)	US
12/555,674	8 September 2009 (08.09.2009)	US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

[Continued on next page]

(54) **Title**: METHODS AND APPARATUS TO PREDICT ETCH RATE UNIFORMITY FOR QUALIFICATION OF A PLASMA CHAMBER

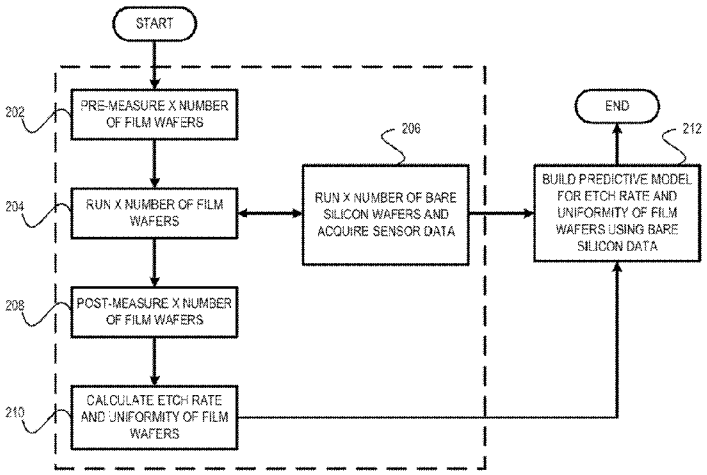


FIG. 2

(57) **Abstract**: A method for predicting etch rate uniformity for qualifying health status of a processing chamber during substrate processing of substrates is provided. The method includes executing a recipe and receiving processing data from a first set of sensors. The method further includes analyzing the processing data utilizing a subsystem health check predictive model to determine calculated data, which includes at least one of etch rate data and uniformity data. The subsystem health check predictive model is constructed by correlating measurement data from a set of film substrates with processing data collected during analogous processing of a set of non-film substrates. The method yet also includes performing a comparison of the calculated data against a set of control limits as defined by the subsystem health check predictive model. The method yet further includes generating a warning if the calculated data is outside of the set of control limits.

WO 2011/002804 A3

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
3 March 2011