



(51) International Patent Classification:

G01N 15/02 (2006.01) H01L 21/67 (2006.01)
G01N 15/06 (2006.01) H01L 21/66 (2006.01)
G01N 21/3504 (2014.01)

(21) International Application Number:

PCT/US2019/041056

(22) International Filing Date:

09 July 2019 (09.07.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/712,627 31 July 2018 (31.07.2018) 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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,

(54) Title: PRECURSOR DELIVERY SYSTEM AND METHODS RELATED THERETO

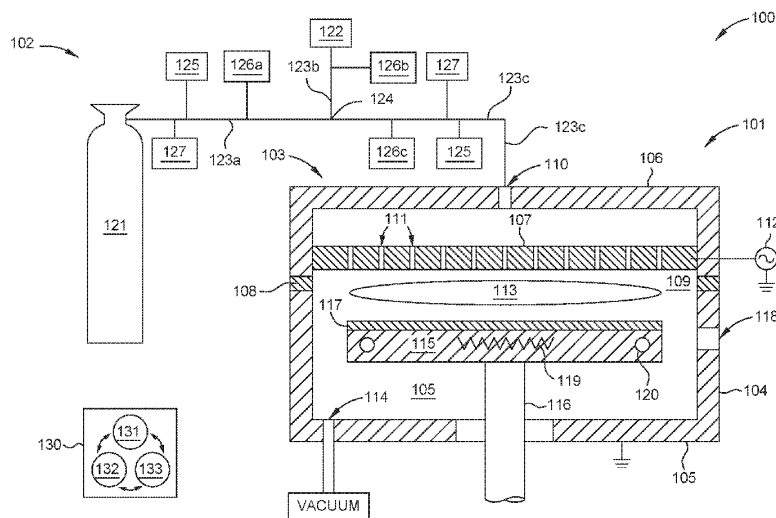


FIG. 1

(57) Abstract: Systems and methods used to deliver a processing gas having a desired diborane concentration to a processing volume of a processing chamber are provided herein. In one embodiment a system includes a borane concentration sensor. The borane concentration sensor includes a body and a plurality of windows. Here, individual ones of the plurality of windows are disposed at opposite ends of the body and the body and the plurality of windows collectively define a cell volume. The borane concentration sensor further includes a radiation source disposed outside of the cell volume proximate to a first window of the plurality of windows, and a radiation detector disposed outside the cell volume proximate to a second window of the plurality of windows.

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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, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

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