

Title (en)

DEVICE AND METHOD FOR OBTAINING INFORMATION ABOUT LAYERS DEPOSITED IN A CVD METHOD

Title (de)

VORRICHTUNG UND VERFAHREN ZUR GEWINNUNG VON INFORMATIONEN ÜBER IN EINEM CVD-VERFAHREN ABGESCHIEDENE SCHICHTEN

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR OBTENIR DES INFORMATIONS SUR DES COUCHES DÉPOSÉES DANS UN PROCÉDÉ DE DÉPÔT CHIMIQUE EN PHASE VAPEUR (CVD)

Publication

EP 3728690 A1 20201028 (DE)

Application

EP 18826237 A 20181213

Priority

- DE 102017130551 A 20171219
- EP 2018084732 W 20181213

Abstract (en)

[origin: WO2019121313A1] The invention relates to a method for obtaining information about a process for depositing at least one layer, in particular semiconductor layer, on a substrate (18) in a process chamber (15) of a reactor (14), said process consisting of a plurality of steps occurring one after the other, wherein in a temporal sequence actuation data (SD) for actuators (2, 4, 6, 9, 11, 23) and measured values (MW) of sensors (3, 4, 24, 25) are stored as raw data (RD) in a log file (40) together with their time reference. Knowledge about the quality of the deposited layer should be obtained by using said raw data (RD). For this purpose, process parameters (PP) are obtained from the raw data (RD) by means of a computing apparatus by relating (41) the raw data (RD); the beginning and the end of process steps (P1 to Pn) and their type are identified by analyzing (42) the time curve of the process parameters (PP); for at least some of the process steps (P1 to Pn), characteristic process step quantities (PG) corresponding to the particular type of said process steps are calculated from the measured values (MW); and the process step quantities (PG) thus obtained are compared (45) with comparison quantities (VG) associated with an at least similar process step, the comparison quantities being stored in a process data memory (44).

IPC 8 full level

C23C 16/30 (2006.01); **C23C 16/448** (2006.01); **C23C 16/52** (2006.01); **C30B 25/16** (2006.01); **G05B 19/042** (2006.01)

CPC (source: EP KR US)

C23C 16/301 (2013.01 - EP); **C23C 16/303** (2013.01 - EP US); **C23C 16/4482** (2013.01 - EP KR US); **C23C 16/45561** (2013.01 - EP KR); **C23C 16/52** (2013.01 - EP KR US); **C23C 16/54** (2013.01 - US); **G05B 19/042** (2013.01 - EP KR); **G05B 19/4155** (2013.01 - US); **H01L 21/02381** (2013.01 - US); **H01L 21/02387** (2013.01 - US); **H01L 21/0242** (2013.01 - US); **H01L 21/02538** (2013.01 - US); **H01L 21/0262** (2013.01 - US); **H01L 21/67253** (2013.01 - US); **H01L 22/20** (2013.01 - US); **G05B 2219/45031** (2013.01 - US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102017130551 A1 20190619; CN 111684104 A 20200918; CN 117660934 A 20240308; EP 3728690 A1 20201028; JP 2021507514 A 20210222; JP 7394055 B2 20231207; KR 20200100105 A 20200825; TW 201928726 A 20190716; TW I812662 B 20230821; US 11669072 B2 20230606; US 2021072731 A1 20210311; WO 2019121313 A1 20190627

DOCDB simple family (application)

DE 102017130551 A 20171219; CN 201880088514 A 20181213; CN 202311430530 A 20181213; EP 18826237 A 20181213; EP 2018084732 W 20181213; JP 2020532734 A 20181213; KR 20207019938 A 20181213; TW 107144814 A 20181212; US 201816955667 A 20181213