

Title (en)

DISLOCATION TYPE AND DENSITY DISCRIMINATION IN SEMICONDUCTOR MATERIALS USING CATHODOLUMINESCENCE MEASUREMENTS

Title (de)

VERSETZUNGSTYP UND DICHTUNTERSCHIEDUNG IN HALBLEITERMATERIALIEN MITTELS KATHODOLUMINESZENZMESSUNGEN

Title (fr)

DISCRIMINATION DE TYPE DE DISLOCATION ET DE DENSITÉ DANS DES MATÉRIAUX SEMI-CONDUCTEURS À L'AIDE DE MESURES DE CATHODOLUMINESCENCE

Publication

EP 4256599 A1 20231011 (EN)

Application

EP 21824057 A 20211204

Priority

- US 202063121752 P 20201204
- US 202117537422 A 20211129
- IB 2021061339 W 20211204

Abstract (en)

[origin: WO2022118294A1] A cathodoluminescence microscope and method are used to identify and classify dislocations within a semiconductor sample. At least two CL polarized images are concurrently obtained from the sample. The images are added together to obtain a total intensity image. A normalized difference of the images is taken to obtain a degree of polarization (DOP) image. The total intensity and DOP images are compared to differentiate between edge dislocations and screw dislocations within the sample. Edge dislocation density and screw dislocation density may then be calculated.

IPC 8 full level

H01J 37/22 (2006.01)

CPC (source: EP KR)

H01J 37/228 (2013.01 - EP KR); **H01J 2237/2808** (2013.01 - EP KR); **H01J 2237/2817** (2013.01 - EP KR)

Citation (search report)

See references of WO 2022118294A1

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

WO 2022118294 A1 20220609; EP 4256599 A1 20231011; JP 2023551972 A 20231213; KR 20230150944 A 20231031; TW 202236343 A 20220916; TW I808554 B 20230711

DOCDB simple family (application)

IB 2021061339 W 20211204; EP 21824057 A 20211204; JP 2023534116 A 20211204; KR 20237022166 A 20211204; TW 110145346 A 20211203