

## Title (en)

METHOD FOR THE CRYSTALLOGENESIS OF A MATERIAL ELECTRICALLY CONDUCTING AT THE MOLTEN STATE

## Title (de)

VERFAHREN ZUR KRISTALLOGENESE EINES IN SCHMELFLÜSSIGEM ZUSTAND ELEKTRISCH LEITENDEN MATERIALS

## Title (fr)

PROCEDE DE CRISTALLOGENESE D'UN MATERIAU ELECTRIQUEMENT CONDUCTEUR A L'ETAT FONDU

## Publication

**EP 2262932 A1 20101222 (FR)**

## Application

**EP 09715571 A 20090227**

## Priority

- EP 2009052393 W 20090227
- FR 0851259 A 20080227

## Abstract (en)

[origin: WO2009106625A1] The invention relates to a method for the crystallogenesis of a material that is electrically conducting at the molten state, by drawing from a molten mass of said material in a crucible (1), that comprises: progressively subjecting the molten material to a decreasing temperature so that a liquid-solid interface is formed; controlling the flatness of the liquid-solid interface of the material; subjecting the molten material, before and during solidification, to an electromagnetic kneading; said method being characterised in that the electromagnetic kneading is obtained by applying an alternating magnetic field. The invention also relates to a device for implementing said method.

## IPC 8 full level

**C30B 11/00** (2006.01); **C30B 29/40** (2006.01); **C30B 30/04** (2006.01)

## CPC (source: EP US)

**C30B 11/003** (2013.01 - EP US); **C30B 11/007** (2013.01 - EP US); **C30B 29/40** (2013.01 - EP US); **C30B 30/04** (2013.01 - EP US); **Y10T 117/1024** (2015.01 - EP US); **Y10T 117/1092** (2015.01 - EP US)

## Citation (search report)

See references of WO 2009106625A1

## Citation (examination)

- EP 1167586 A1 20020102 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- OSTROGORSKY ET AL: "Numerical simulation of single crystal growth by submerged heater method", JOURNAL OF CRYSTAL GROWTH, ELSEVIER, AMSTERDAM, NL, vol. 104, no. 2, 2 July 1990 (1990-07-02), pages 233 - 238, XP024437848, ISSN: 0022-0248, [retrieved on 19900702], DOI: 10.1016/0022-0248(90)90122-2
- OSTROGORSKY A G ET AL: "DIFFUSION-CONTROLLED DISTRIBUTION OF SOLUTE IN SN-1% BI SPECIMENS SOLIDIFIED BY THE SUBMERGED HEATER METHOD", JOURNAL OF CRYSTAL GROWTH, ELSEVIER, AMSTERDAM, NL, vol. 110, no. 4, 1 April 1991 (1991-04-01), pages 950 - 954, XP000261056, ISSN: 0022-0248, DOI: 10.1016/0022-0248(91)90655-O
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- MITRIC A ET AL: "Growth of Ga("1"- "x")In"xSb alloys by Vertical Bridgman technique under alternating magnetic field", JOURNAL OF CRYSTAL GROWTH, ELSEVIER, AMSTERDAM, NL, vol. 287, no. 2, 25 January 2006 (2006-01-25), pages 224 - 229, XP028016211, ISSN: 0022-0248, [retrieved on 20060125], DOI: 10.1016/J.JCRYSGRO.2005.10.101

## Designated contracting state (EPC)

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## Designated extension state (EPC)

AL BA RS

## DOCDB simple family (publication)

**FR 2927910 A1 20090828**; **FR 2927910 B1 20110617**; EP 2262932 A1 20101222; JP 2011513168 A 20110428; JP 5777888 B2 20150909; US 2011000424 A1 20110106; US 9493889 B2 20161115; WO 2009106625 A1 20090903

## DOCDB simple family (application)

**FR 0851259 A 20080227**; EP 09715571 A 20090227; EP 2009052393 W 20090227; JP 2010548128 A 20090227; US 91993409 A 20090227