

Title (en)

METHOD AND DEVICE FOR PRODUCING LAYERED NANOCARBON STRUCTURES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG VON SCHICHTFÖRMIGEN NANOKOHLNSTOFFSTRUKTUREN

Title (fr)

PROCÉDÉ ET DISPOSITIF DE PRODUCTION DE STRUCTURES DE NANOCARBONE EN COUCHES

Publication

EP 4367282 A1 20240515 (EN)

Application

EP 22747643 A 20220706

Priority

- US 202163219131 P 20210707
- US 202217854612 A 20220630
- EP 2022068804 W 20220706

Abstract (en)

[origin: WO2023280951A1] Methods for producing layered nanocarbon structures placing a workpiece in a working chamber, applying a vacuum to the chamber, processing the workpiece surface with gas ions, applying a material sublayer to the workpiece surface, depositing carbon ions from a carbon plasma on the workpiece surface to apply an amorphous diamond-like sp³ carbon coating layer on the workpiece surface. The methods include irradiating the growing carbon coating with accelerated ions of an inert gas at a first energy range to apply a graphite sp² carbon coating layer on the sp³ carbon coating layer and irradiating the growing carbon coating with accelerated ions of the inert gas at a second energy range, different from the first energy range, to apply a linear chain and polymer sp¹ carbon coating layer on the sp² carbon coating layer.

IPC 8 full level

C23C 14/02 (2006.01); **C23C 14/06** (2006.01); **C23C 14/22** (2006.01); **C23C 14/32** (2006.01); **H01J 37/32** (2006.01)

CPC (source: EP)

C23C 14/025 (2013.01); **C23C 14/0605** (2013.01); **C23C 14/221** (2013.01); **C23C 14/325** (2013.01)

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 2023280951 A1 20230112; EP 4367282 A1 20240515

DOCDB simple family (application)

EP 2022068804 W 20220706; EP 22747643 A 20220706