

Title (en)

Apparatus and method for electrospinning 2D- or 3D-structures of micro- or nano-fibrous materials

Title (de)

Vorrichtung und Verfahren für Elektrosponning von 2D- oder 3D-Strukturen von Mikro- bzw. Nanofasermaterialien

Title (fr)

Appareil et procédé pour l'électrofilature de structures 2D ou 3D de matériaux micro ou nano-fibreux

Publication

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Application

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Priority

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Abstract (en)

[origin: EP2045375A1] The invention relates to an apparatus for electrospinning 2D- or 3D-structures of micro- or nano-fibrous materials, comprising at least one electrospinning spinneret (3) being electrically charged at a first potential; electrode means (4A, 4B) disposed adjacent said at least one electrospinning spinneret (3) and being electrically charged at a second potential different from said first potential to thereby generate an electric field between said at least one electrospinning spinneret (3) and said associated electrode means for aligning micro- or nano-fibers injected by said at least one electrospinning spinneret (3); and collecting means (9) for collecting micro- or nano-fibers injected by a respective spinneret and aligned by said associated electrode means. In order to enable a precise alignment of the fibers and a precise control over the properties and characteristics of the hybrid material deposited onto the surface of the collecting means, according to the invention the electrode means comprises at least two conductive electrodes (4A, 4B), which are disposed in parallel with each other and rotate in the same rotating direction, wherein the collecting means (9) is movably disposed between said at least two conductive electrodes (4A, 4B) for collecting said aligned micro- or nano-fibers.

IPC 8 full level

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Cited by

WO2015075658A1; WO2011095141A1; CN112376120A; CZ304660B6; CN107532334A; CN112030244A; CN102242407A; KR101650497B1; CN103334167A; EP3183382A4; CN103343393A; CN107699965A; CN102304779A; CN110886023A; US2018291527A1; US11015267B2; CN103173874A; CN103687984A; US2014284827A1; CN102181948A; CN103981579A; CN104141174A; CN111945237A; US10633766B2; US10206780B2; US9903050B2; US9168231B2; CN102753738A; US2016024690A1; EP2971292A4; CN102191568A; CN106283214A; CN108179485A; CN112981555A; KR20230093110A; WO2011011575A3; WO2014074565A1; US10932910B2; US11058521B2; JP2013122098A; WO2009049564A3; WO2016004457A1; WO2013000442A1; WO2012078472A3; WO2016172531A1; WO2014160002A1; US11071617B2; US11096772B1; US11311366B2; US11471260B2; US11224677B2; US11826487B2; US8721313B2; US10953133B2; US11236442B2; US8211352B2; US10415156B2; US11173234B2; US11253635B2; US11596717B2

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