Title (en)

AN OPTICAL NANO-MANIPULATOR FOR PARTICLES IN A FLUID

Title (de)

OPTISCHER NANO-MANIPULATOR FÜR PARTIKEL IN EINEM FLUID

Title (fr)

NANOMANIPULATEUR OPTIQUE DE PARTICULES DANS UN FLUIDE

Publication

EP 3881054 A4 20220817 (EN)

Application

EP 19885440 A 20191114

Priority

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- IB 2019059782 W 20191114

Abstract (en)

[origin: WO2020100077A1] A Colloidal Optical Tweezer (CPT) 100 for use in a colloidal solution containing nano particlesis disclosed, comprising a disc 102 of plasmonic material coupled to an end of a dielectric nanorod 104. When a low power polarised laser beam is focussed on the CPT 100, the disc work as a plasmonic antenna to trap the nano particles based on a plasmonic gradient force of localized and enhanced electromagnetic intensity in optical near field generated by the discs, and the CPT100 is trapped to the light beam on account of far field optical forces acting on the dielectric nanorod as a result of the light beam. Steering the light beam enables movement of the CPT100 to desired locations where the trapped nano particles can be released. The CPT100 can work in any microfluidic chamber, i.e. does not require nano patterned surfaces.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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- See references of WO 2020100077A1

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