Title (en)

MANIPULATING THE SIZE OF LIQUID DROPLETS IN DIGITAL MICROFLUIDICS

Title (de)

MANIPULATION DER GRÖSSE VON FLÜSSIGKEITSTRÖPFCHEN IN DIGITALER MIKROFLUIDIK

Title (fr)

MANIPULATION DE LA TAILLE DE GOUTTELETTES DE LIQUIDE EN MICROFLUIDIQUE NUMÉRIQUE

Publication

EP 2931425 A1 20151021 (EN)

Application

EP 13770655 A 20130923

Priority

- US 201313784168 A 20130304
- EP 2013069703 W 20130923

Abstract (en)

[origin: WO2014135232A1] A liquid droplet manipulation instrument (20) comprises at least one electrode array (21) for inducing a movement of a liquid droplet (19) by electrowetting; a substrate (22) supporting the at least one electrode array (21); and a control unit (23) comprising at least one electrode selector (34) connected with at least one voltage control (29). The at least one electrode selector (34) is accomplished to individually select each electrode (35) of the at least one electrode array (21) and to provide the selected electrode (35) with a voltage controlled by the voltage control (29). The control unit (23) further comprises a central processing unit (36) for controlling the electrode selector (34) and the voltage control (29) to individually select at least one electrode (35) and to provide the at least one selected electrode (35) with an individual voltage pulse which is selected from a group comprising a drive voltage, a ground voltage, and a stop voltage. The control unit (23) is capable to define a path for a guided movement of a liquid portion (19') of a larger volume that covers more than one electrode (35') of one electrode array (21) by the essentially simultaneous selection of a group of two or more subsequent drive electrodes (35') of said electrode array (21) and to provide each one of these selected drive electrodes (35') with a drive voltage pulse along said path. The control unit (23) is accomplished to essentially simultaneously provide a group of two or more electrodes (35) adjacent to or identical with the pulsed drive electrodes (35') with a ground or stop voltage pulse.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

See references of WO 2014135232A1

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