

Title (en)
Manipulation of particles by dielectrophoresis

Title (de)
Manipulation von Partikeln durch Dielektrophorese

Title (fr)
Manipulation de particules par diélectrophorèse

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Application
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Abstract (en)
The present invention provides a dielectrophoretic device for manipulation of at least a first and a second type of particles (1, 2) present in a sample fluid. The device comprises at least one array (3) of electrodes (4), the array (3) comprising at least a plurality of electrodes (4) in a first region (5) and a plurality of electrodes (4) in a second region (6), driving means (32) for driving the electrodes (4) of the first and second region (5, 6) of the array (3) to generate a travelling wave dielectrophoretic force to be exerted on the at least first and second types of particles (1, 2), and a controller (30) for controlling the driving means (32), the controller (30) being adapted for first driving the electrodes (4) of the first and second region (5, 6) with a same driving signal and subsequently changing the driving signal to electrodes (4) of at least one of the first and second region (5, 6) so as to separate at least some particles (1) of the first type from the particles (2) of the second type. The present invention also provides a method for forming such a dielectrophoretic device, a method for manipulation of at least a first and a second type of particles (1, 2) present in a sample fluid and a controller (30) for controlled driving of electrodes (4) of such a dielectrophoretic device.

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Citation (search report)
• [X] US 6596143 B1 20030722 - WANG XIAO-BO [US], et al
• [X] US 2005123992 A1 20050609 - VOLKEL ARMIN R [US], et al
• [X] WO 0105512 A1 20010125 - UNIV WALES BANGOR [GB], et al
• [X] US 6185084 B1 20010206 - TAI YU-CHONG [US], et al
• [X] WO 9734689 A1 19970925 - UNIV NORTH WALES [GB], et al
• [X] US 5653859 A 19970805 - PARTON ADRIAN [GB], et al
• [X] US 2005148064 A1 20050707 - YAMAKAWA MINEO [US], et al
• [X] US 2006070879 A1 20060406 - BECKER FREDERICK F [US], et al
• [X] US 2002056640 A1 20020516 - SOANE DAVID S [US], et al
• [X] US 2003173223 A1 20030918 - GASCOYNE PETER R C [US], et al
• [X] US 2006177815 A1 20060810 - SOH HYONGSOK T [US], et al

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