

Title (en)
MICROELECTRONIC SENSOR DEVICE FOR DETECTING LABEL PARTICLES

Title (de)
MIKROELEKTRONISCHE SENSORENVORRICHTUNG ZUR ERKENNUNG VON MARKIERUNGSPARTIKELN

Title (fr)
DISPOSITIF DE DÉTECTEUR MICROÉLECTRONIQUE POUR DÉTECTER DES PARTICULES DE MARQUEUR

Publication
EP 2181322 A1 20100505 (EN)

Application
EP 08763359 A 20080617

Priority
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Abstract (en)
[origin: WO2008155716A1] The application relates to a microelectronic sensor device for the detection of target components that comprise label particles, for example magnetic particles (1). The sensor device comprises a carrier (11) with a binding surface (12) at which target components can collect and optionally bind to specific capture elements. An input light beam (L1) is transmitted into the carrier and totally internally reflected at the binding surface (12). At least two parts of a resulting output light beam (L2) which are composed of different fractions of (i) "nominal light" (L_{nom}) that is totally internally reflected in the investigation region (13) in a predetermined way and (ii) light (L_s) from another origin are then detected by a light detector (31), wherein the latter part may for example comprise scattered light (L_s) of the input light beam (L1). Evanescent light generated during the total internal reflection is affected (absorbed, scattered) by target components and/or label particles (1) at the binding surface (12) and will therefore be missing in the output light beam (L2). This can be used to determine the amount of target components at the binding surface (12) from the amount of light in the output light beam (L2). Moreover, the amount of light (L_s) from other sources, e.g. scatter, can be estimated and used to correct the measurement results.

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Citation (search report)
See references of WO 2008155716A1

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