

Title (en)

WIDE ANGLE HIGH RESOLUTION ATOM PROBE

Title (de)

HOCHAUFLÖSENDE WEITWINKEL-ATOMSONDE

Title (fr)

SONDE ATOMIQUE TOMOGRAPHIQUE GRAND ANGLE A HAUTE RESOLUTION

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Application

EP 08838185 A 20081008

Priority

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- FR 0707178 A 20071012

Abstract (en)

[origin: WO2009047265A1] The invention pertains to improvements in the mass resolution of wide-angle tomographic atomic probes. The invention comprises an atomic probe including, in addition to a sample-holding device and to detectors remote from each other by a distance L and enclosed in a housing, an electrostatic lens of the Einzel type made of three electrodes arranged inside the housing between the sample and the detector and to which electric potentials are applied in order to generate an electric field that strongly focalises the ion beam emitted by the sample under test during the probe operation. According to the invention, the geometry of the electrodes is defined accurately in order to substantially limit the spherical aberration effects undergone by the Einzel lens on the ion beam, of which the spherical aberration is particularly important when the lens is strongly polarised. The invention can particularly be used for atomic probes referred to as "3D atom probes."

IPC 8 full level

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