

Title (en)

PARTICLE MASS SPECTROMETER FOR DETECTING NANOPARTICLES AND METHOD

Title (de)

PARTIKEL-MASSEN-SPEKTROMETER ZUR DETEKTION VON NANOPARTIKELN UND VERFAHREN

Title (fr)

SPECTROMETRE DE MASSE A PARTICULES SERVANT A DETECTER DES NANOPARTICULES ET PROCEDE ASSOCIE

Publication

EP 1665328 B1 20120627 (DE)

Application

EP 04740731 A 20040707

Priority

- EP 2004007415 W 20040707
- DE 10344462 A 20030925

Abstract (en)

[origin: WO2005041244A2] Gas-borne particles are removed from an aerosol source by a multistage molecular beam system. In the high-vacuum part of the particle mass spectrometer, the particle beam flies through a deflection capacitor having a variable electric field. The part of charged particles is separated according to polarity and ratio of kinetic energy and charge. The charged particles reach the charge detector or charge detectors, Faraday cups for example, and respectively produce a current or voltage signal which is multiplied proportionally, in relation to the captured figure, by the charge figure. The particle speed is also measured such that the measuring data can be processed to form a mass spectrum. By assuming the simple charge per particle and the spherical shape, the mass spectrum can be converted into a size spectrum.

IPC 8 full level

H01J 49/40 (2006.01); **G01N 15/02** (2006.01); **H01J 49/00** (2006.01); **H01J 49/06** (2006.01)

CPC (source: EP)

H01J 49/0031 (2013.01); **H01J 49/061** (2013.01); **H01J 49/40** (2013.01)

Cited by

US11842891B2; US11367602B2; US11837452B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2005041244 A2 20050506; WO 2005041244 A3 20050929; DE 10344462 A1 20050519; DE 10344462 B4 20080124; EP 1665328 A2 20060607; EP 1665328 B1 20120627

DOCDB simple family (application)

EP 2004007415 W 20040707; DE 10344462 A 20030925; EP 04740731 A 20040707