

Title (en)  
Electrostatic deflection with a generally cylindrical shape

Title (de)  
Elektrostatischer Deflektor mit allgemein zylindrischer Grundform

Title (fr)  
Déflecteur électrostatique de forme essentiellement cylindrique

Publication  
**EP 0554814 B1 20010620 (DE)**

Application  
**EP 93101475 A 19930130**

Priority  
• DE 4202985 A 19920203  
• DE 4239866 A 19921127

Abstract (en)  
[origin: EP0554814A1] An electrostatic deflector having a generally cylindrical basic shape for energy selection of charged particles is optimised, with respect to its focusing properties, to a repulsive potential for a focusing effect at right angles to the dispersion plane by a combination of a bulge, which deviates from the ideal cylindrical basic shape, of the cylindrical main deflection plates and deflection plates (1, 2) at the end. The generally cylindrical main deflection plates (3, 4) can alternatively be divided into at least three sections (5-7, 8-10) at right angles to the cylinder axis and can have a different potential applied to them. The mean radial distance between the (bulged or divided) main deflection plates (3-4) is preferably equal to at least half the distance between the end deflection plates (1, 2) and is dimensioned such that, when a suitable potential is applied to the latter, an approximately spherical curvature of the equipotential surfaces around the centre beam is achieved, and hence stigmatic focusing. The input and/or output shutter (11, 12) is expediently curved, and the same applies to the input and/or output gap of the deflector. The deflection angle theta of the deflector is selected, as normal, in the range from 100 to 150 DEG . <IMAGE>

IPC 1-7  
**H01J 49/48**

IPC 8 full level  
**H01J 49/48** (2006.01)

CPC (source: EP US)  
**H01J 49/482** (2013.01 - EP US)

Citation (examination)  
• US 4959544 A 19900925 - SUKENOBU SATORU [JP]  
• DE 2848538 A1 19800522 - LEYBOLD HERAEUS GMBH & CO KG  
• JP S57194446 A 19821130 - SHIMADZU CORP  
• US 3710103 A 19730109 - HELMER J  
• J. PHYS. E: SCI. INSTRUM., Band 14, 1981, 325-329

Designated contracting state (EPC)  
CH DE FR GB IT LI

DOCDB simple family (publication)  
**EP 0554814 A1 19930811; EP 0554814 B1 20010620**; DE 4239866 A1 19930805; DE 59310175 D1 20010726; US 5357107 A 19941018

DOCDB simple family (application)  
**EP 93101475 A 19930130**; DE 4239866 A 19921127; DE 59310175 T 19930130; US 1253793 A 19930202