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ABSTRACT



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A hollow exciting current pathway in the form of conductor means is arranged outside of an ion deflection casing with a curved contour and having an inlet and an outlet. The conductor means is composed of a widthwise spiral formation of conductors running through the inlet and outlet and along the curved contour with a result that a magnetic field which is uniform widthwise is formed in the ion deflection casing. An ion beam is introduced through between the conductors at the inlet into the hollow exciting current pathway. By the action of the magnetic field through the hollow exciting current pathway, the ion beam is bent depending upon mass of ions; the ion beam with desired mass is taken out through between the conductors at the outlet with a result that the ion beam greater in size can be ion mass separated uniformly.