Theoretical modeling approach to charged particle therapy

Dariush Sardari
SRI- Azad University – Plasma Physics Building – Poonak - Tehran P.O. Box 14515-775 – IRAN,
Email: Sardari@srbiau.ac.ir, Tel: (+98) 912 363 2644, Fax: (+98) 21 4486 5696

Abstract

Interaction of charged particle beam with matter is studied. Theoretical model is worked out to describe phenomena such as beam divergence and occurrence of Bragg peak. The effect of beam widening on the lateral spread of Bragg peak is investigated.

The beginning of distal fall-off region is scrutinized by concepts from atomic physics.

Key words: Beam widening; Mathematical modeling; Bragg peak