



Contribution ID: 33

Type: **Paper**

ALIGNMENT ISSUES AND TECHNIQUES FOR PROTON THERAPY CLINICS

Wednesday, 10 October 2018 09:00 (30 minutes)

Abstract

The use of Protons to treat cancer tumours was first proposed by R R Wilson in 1946 [1], the first experimental treatments were done at Berkeley and Uppsala in the 1950's and Massachusetts General Hospital in 1961. Over the past 50 year some 50 clinics are now in operation worldwide. All clinics use cyclotrons or synchrotrons to produce protons or other heavy ions. The facilities employ beam transport systems, rotating gantries and patient positioning systems. The accelerator and beam transport system use conventional alignment techniques such as laser trackers and FARO arms. Determination of isocenter and patient positioning present unique challenges.

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Session Classification: Survey & Alignment Aspects of Medical Accelerator Developments

Track Classification: Survey & Alignment Aspects of Medical Accelerator Developments