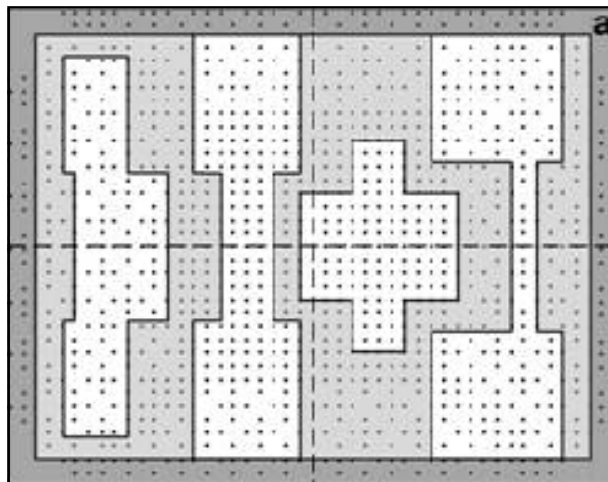


Automated IMRT Beam Model Commissioning Platform for Treatment Planning Systems

Overview of Technology:

This software/2-D diode array system permits the automatic beam model optimization for IMRT treatment planning system (TPS) commissioning. As opposed to manual iterative approaches, the system automatically and iteratively modifies the beam model parameters to maximize the agreement between the TPS dose calculation and the dose measurement of an intensity modulated radiation beam. Although there is an obvious time-saving feature, the real benefit is a more accurate and precise determination of beam modeling parameters for IMRT TPS systems. A complex set of variables are analyzed by the algorithms and special beam patterns are designed to emphasize the potential differences between calculated and measured dose. The system can be integrated with various TPS's and ideally used for commissioning of new TPS's, LINAC's or as a continuous quality improvement initiative.



IMRT beam pattern with 2D diode array

A US patent application has been filed and the technology is available for exclusive global licensing.

Related Publication:

Owraji, A., Jaffray, D.A., Létourneau, D., Sharpe, M.B. Automated beam model optimization. *Med. Phys.* 37 (5), 2110 (2010)

Patents:

US61/300,606 - Filed Feb 2, 2010

Inventors:

D. Letourneau, M. Sharpe, D. Jaffray

UHN Reference # - 8034