Ain Shams University
Faculty of women for Arts, Science and Education

DOSIMETRIC STUDY OF FIELD JUNCTION IN ADJACENT BEAMS USING ASYMMETRIC COLLIMATORS AND MULTI LEAF COLLIMATOR (MLC)

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بِسْمِ اللهِ الرَّحْمنِ الرَّحِيمِ

قُل لَّوْ كَانَ الْبَحْرُ مِدَادًا لِّكَلِمَاتِ رَبِّي لَنَفِدَ الْبَحْرُ قَبْلَ
أَن تَنفَدَ كَلِمَاتُ رَبِّي وَلَوْ جِئْنَا بِمِثْلِهِ مَدَدًا ﴿١٠٩﴾
قُلْ إِنَّمَا أَنَا بَشَرٌ مِّثْلُكُمْ يُوحَىٰ إِلَيَّ أَنَّمَا إِلَٰهُكُمْ
إِلَٰهٌ وَاحِدٌ ۖ فَمَن كَانَ يَرْجُو لِقَاءَ رَبِّهِ فَلْيَعْمَلْ عَمَلًا
صَالِحًا وَلَا يُشْرِكْ بِعِبَادَةِ رَبِّهِ أَحَدًا ﴿١١٠﴾

[سورة الكهف]

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Dedicated

To

My parents (Father and Mother),

My wife,

My brother,

My new born son,

My professors

And

My colleagues

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List of Symbols & Abbreviations

AP	Anterior posterior
BSF	Backscatter Factor
CAX	Central Axis
CPE	Charged Particle Equilibrium
CTV	Clinical Target Volume
DVH	Dose-Volume Histogram
EBRT	External Beam Radiotherapy
IBRT	Internal Beam Radiotherapy
FS	Field Size
GR	Gantry Rotation
GA	Gantry Angle
GTV	Gross Tumor Volume
ICRU	International Commission on Radiation Units
IL	Isodose Line
IM	Internal Margin
IMRT	Intensity Modulated Radiotherapy
ISF	Inverse Square Factor
ITP	Inverse Treatment Planning
ITV	Internal Target Volume
IRTV	Irradiated Target Volume
LINAC	Linear Accelerator
MLC	Multi leaf Collimator
MU	Monitor Unit
OAD	Off-Axis Distance

OAR	Organ at Risk
PDD	Percentage Depth Dose
PA	Posterior Anterior
PP	Parallel Plate chamber
PTV	Planning Tumor Volume
RF	Radio-Frequency
RP	Radiation Photon
SAD	Source-Axis Distance
SCD	Source-Collimator Distance
SDD	Source -Diaphragm Distance
SF	Scatter Factor
SSD	Source-Surface Distance
TD	Target Dose
TL	Thermo-luminescence
TLD	Thermo-luminescent Dosimetry
TPS	Treatment Planning System
TV	Target Volume
VOI	Volumes of Interest

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