

Graduate Research Day 2013

Florida Atlantic University

Charles E. Schmidt College of Science

Evaluation of Surface Dose Outside the Treatment Area for Breast Cancer Irradiation Modalities using Thermoluminescence Dosimeters (TLDs).

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The purpose of this research is to compare the surface dose outside the treatment area for different breast cancer irradiation modalities using Thermoluminescence Dosimeters (TLDs). Five different modalities are included in this study: Accuboot, Photon boost, Electron boost, Strut-Adjusted Volume Implant (SAVI), and Mommosite Multi-lumen (ML). Six different points of interest (POI) on the breast cancer patients had been selected for the TLDs placement. Data from 15 breast cancer patients at Lynn Cancer Institute of the Boca Raton Regional Hospital were included in the study. Following range of averaged doses in percentage has been observed for all modalities at different Points of Interest (POI): For Sternum: 0.26% - 3.51%, For Shoulder: 0.25% - 3.41%, For Eye: 0.22% - 1.25%, For Thyroid: 0.23% - 2.84%, For Contralateral Breast (CLB): 0.15% - 5.48%, For Lower Abdomen: 0.21% - 3.04%.

