

AbstractID: 2119 Title: Use of MOSFET detectors to verify dose calculations in an anthropomorphic breast phantom

Dose measurements with MOSFET and thermoluminescence dosimeters (TLD) were made at different points inside an anthropomorphic breast phantom. The phantom is composed of several layers of Plastic WaterTM including lung- and rib-equivalent components. Measurements were made to verify the dose calculations from three treatment plans developed with a Pinnacle treatment planning system (i.e., pair of open fields, 30 ° wedged fields, and field in field). The phantom was imaged using an AcQsim I simulator and a treatment plan was developed. The plan was delivered using a 6 MV photon beam of a Clinac 2100CD accelerator. The dose at isocenter was verified with a PTW N23333 ion chamber. TLD flat packages were used within the phantom layers, and Super-flab bolus material was used to avoid air gaps around the MOSFET detectors. The results show good agreement between the TLD and MOSFET measurements and treatment plan calculations. A detailed comparison of the measurements with the treatment plans and a Monte Carlo simulation of the plans will be presented.

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