

Abstract Submitted
for the SES17 Meeting of
The American Physical Society

Geant4 Simulation of Low-Energy X-rays Xoft Machine NICOLAS RECALDE, University of South Carolina — In the past decade, miniature X-ray sources developed by Xoft Inc. (an iCad company, Sunnyvale, CA) have become the modality of choice for the treatment of specific cancer lesions. The X-ray spectra of these sources have a typical endpoint of 50 keV. We aim to quantify the energy deposition in matter when using this machine, and one of the first steps is to characterize the X-ray distribution from this source. For that purpose we have done Geant4 simulations of the Xoft X-ray spectrum and compared against precise experimental data obtained at NIST. We found that radiation transport at low energy can be very sensitive to small variations in manufacturing specifications.

Nicolas Recalde
University of South Carolina

Date submitted: 05 Oct 2017

Electronic form version 1.4