

Abstract Submitted  
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**Investigation of bremsstrahlung radiation from slabs of different thickness with PENELOPE** KEITH HAYTON, C.A. QUARLES, TCU, Ft. Worth TX 76129 — The computer code system, PENELOPE, performs Monte Carlo simulations of electrons, photons, and positrons transported through different materials. [1] PENSLAB, included with the distribution package as an example of a “main program” which the user must write in order to utilize the “driving program,” PENELOPE, simulates the path of photons, electrons, and positrons through a slab composed of an arbitrary material. PENSLAB records and calculates detailed information concerning the track of the particle during and after its travel through the slab. We have made some modifications to the PENSLAB code. The goal of the modifications has been to enable the program to collect and record the energy of the emerging particles as a function of solid angle. We will discuss applications of PENSLAB to the study of bremsstrahlung radiation from slabs of various thickness. We will discuss results that we have generated to compare with experiments with 50 keV electrons on Au and Al targets.

[1] Llovet, X., Sorbier, L., Campos, C. S., Acosta, E., and Salvat, F., *J. Appl. Phys.* **93**, 3844 (2003).

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