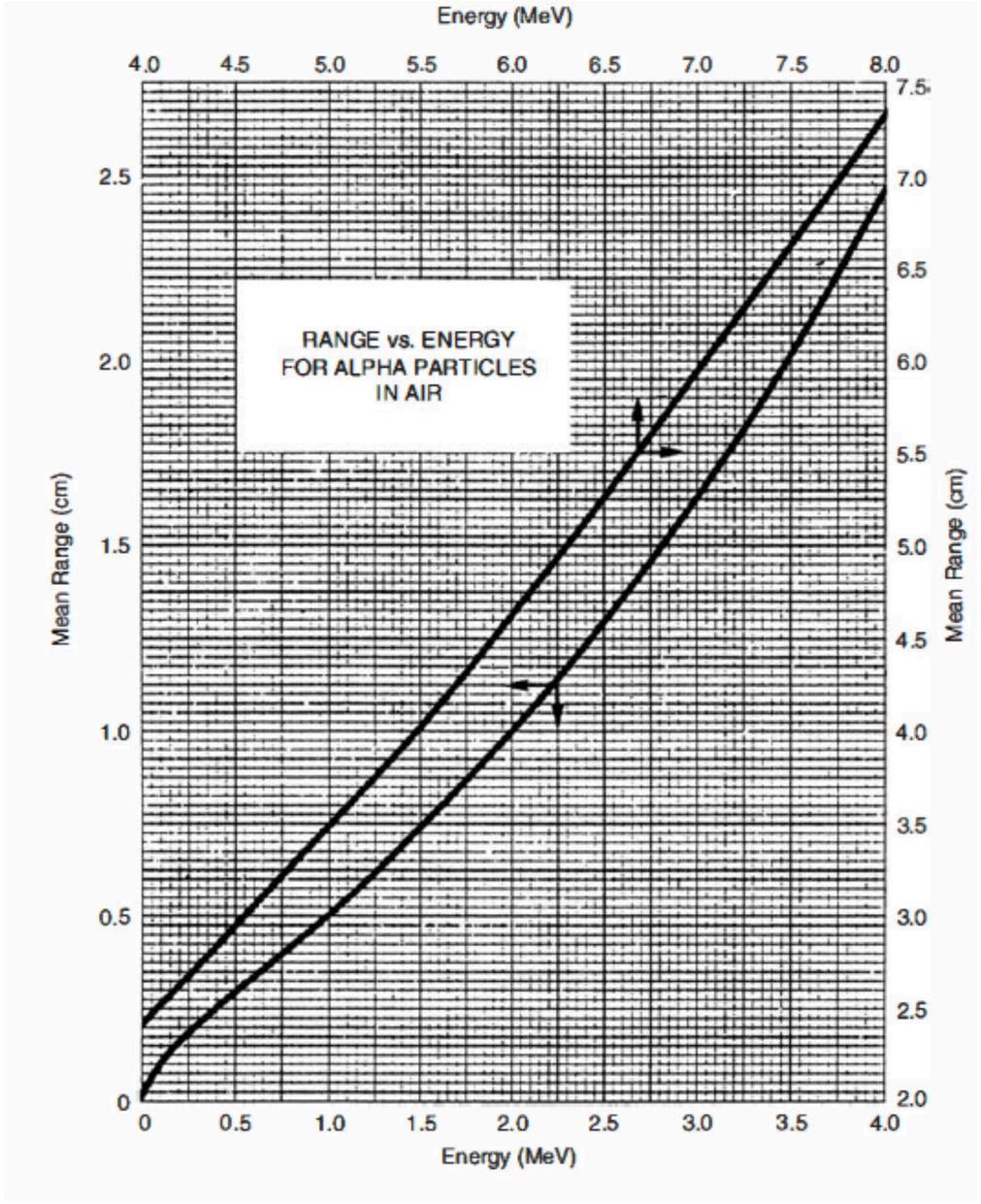
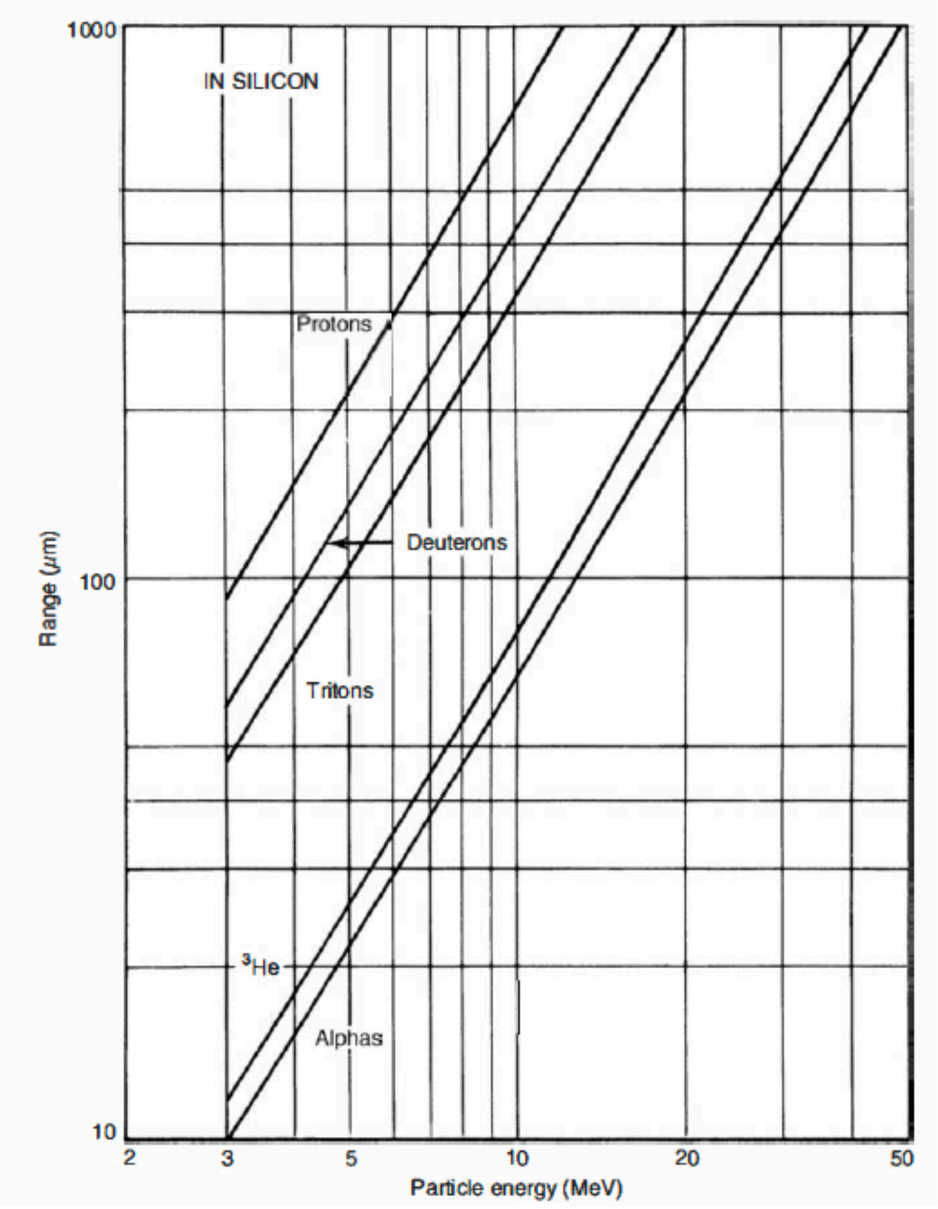
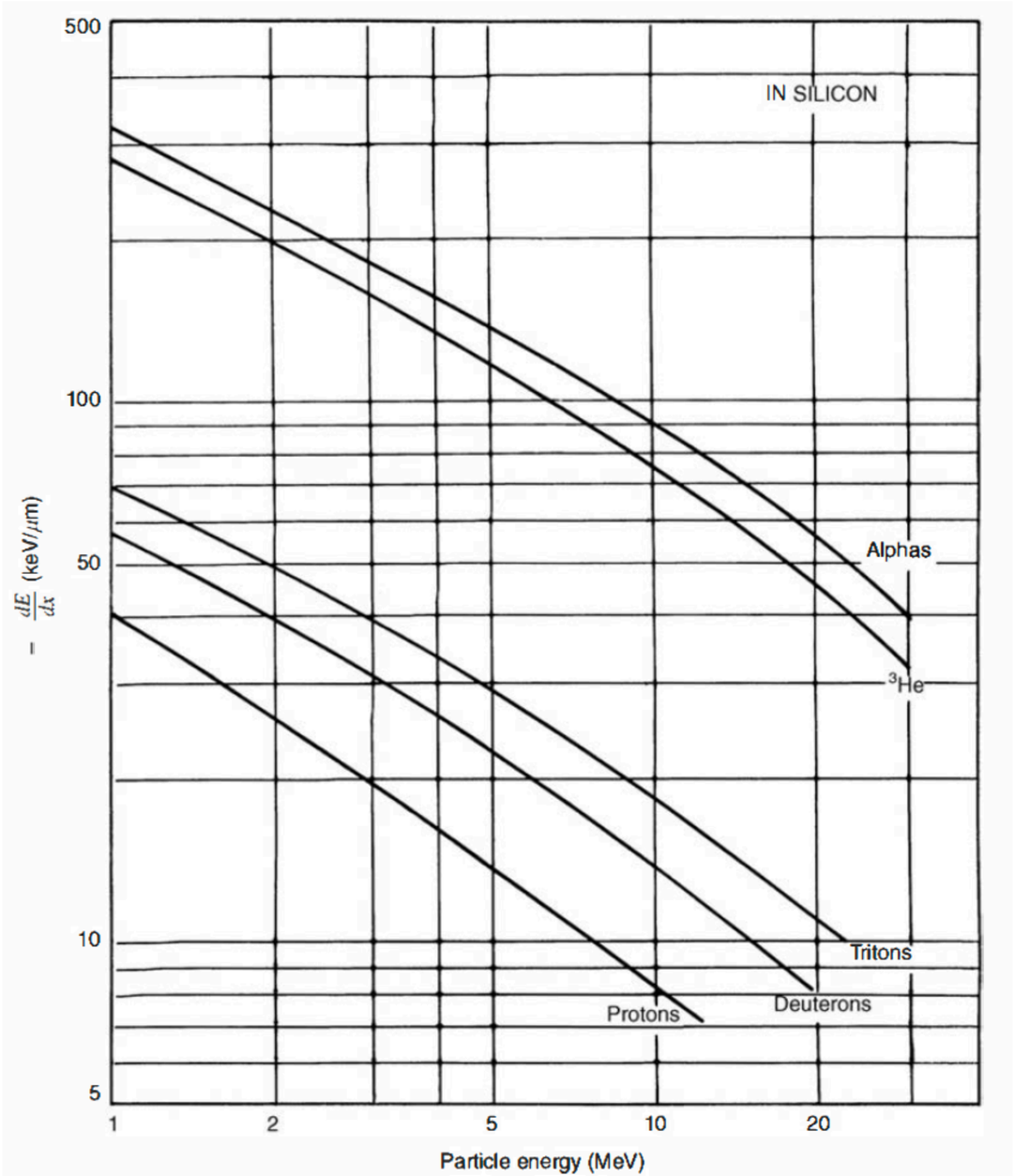
SPETTROSCOPIA ALFA

RANGE DELLE PARTICELLE ALFA





PERDITA DI ENERGIA IN SILICIO



FORMA DEI PICCHI ALFA

FIGURE 5.15 Alpha spectra of samples composed of natural U with different source thicknesses. The peaks on the left and right correspond to ^{238}U and ^{234}U. Spectra are shifted along the vertical axis to show the differences in peak width (resolution) and tailing. *Pöllänen et al. (2005), reprinted by permission of Elsevier Ltd. © 2005.*

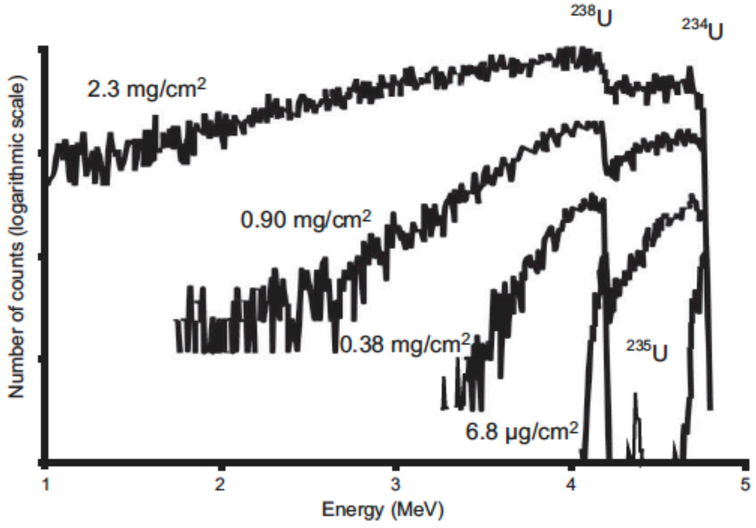


FIGURE 5.17 Simulated alpha spectra of a source containing equal activities of ^{238}U and ^{234}U by assuming different absorber thicknesses (0, 20, and 40 µm). Detector full width at half maximum (here 14 keV) and source thickness (0.4 µm, 6.8 µg/cm^2) do not influence the peak shapes significantly. Spectra were generated by the AASI simulation software (Siiskonen and Pöllänen, 2004).

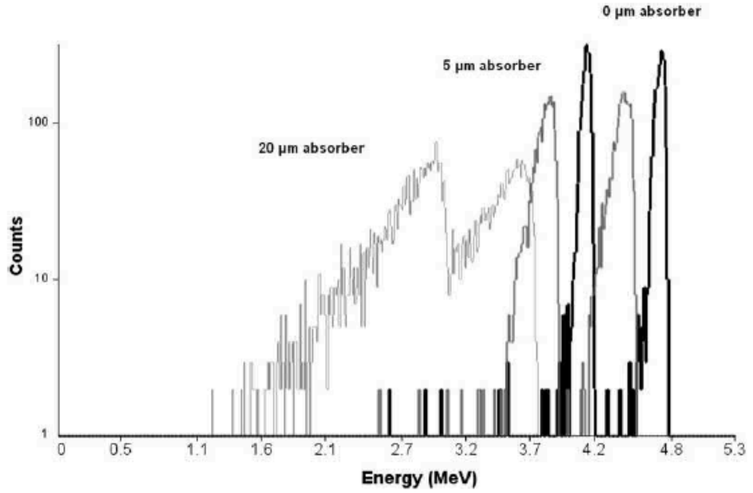


FIGURE 5.18 Simulated alpha spectra of a source containing equal activities of ^{238}U and ^{234}U with varying source thickness (0.4, 20, and 40 µm with source surface densities of 6.4, 320, and 640 µg/cm^2). Detector full width at half maximum and absorber thickness are assumed to be 14 keV and 0 µm (0 µg/cm^2), not influencing the peak shape significantly. Spectra were generated by the AASI simulation software (Siiskonen and Pöllänen, 2004).