

Characteristics of Radiation Dose for Electron Beams in Medical Linear Accelerator

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Energy spectra for clinical electron beams were calculated from the mono energetic depth dose data obtained by electro-gamma shower calculations. The depth dose calculations for 1~18 MeV mono energetic electrons were performed by simulation code and measurements for clinical electron beams of 6, 9, 12, and 15 MeV from a medical linear accelerator. The numerical calculations based on least square method were performed to obtain the energy spectra by repeated fitting for measured depth dose curves. The calculated spectra were estimated by comparison of measured and calculated E_p , E_0 , and depth dose curves. As a result of the comparison, the differences were -1~-2.5% for E_p , -3.1~-6.1% for 3% at the depth range from phantom surface to $R_{50} \pm E_0$, and less than depth.

Keywords : Energy Spectra, Electron Beam, Radiation Dose