Measurement of Spectra for Diagnostic X-Ray Beams

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The X-ray spectra for the energy interval applied in diagnostic radiology was experimentally determined using a high-purity germanium detector, (HP)Ge. The measurements were performed for those situations where the x-ray beam is transmitted through a layer 0.2 to 0.7 mm thick of Pb. In this case, it was necessary to estimate the effective dose to the same design of a radiology diagnosis room shielding. The spectra were also determined for the X-ray qualities recommended by the IEC for primary diagnostic X-ray and for X-ray beams attenuated by aluminum foils with thickness of 2.5 to 42.5 mm. The spectra obtained were compared with data derived from the literature presenting good agreement .

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