Simulation of 140 Kv X– Ray Tube by MCNP4C Code

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Abstract : In this study, we used Monte Carlo code (MCNP4C) that is a general method, for simulation, electron source and electric field, a disc source with 0.05 cm radius in direct of anode are used, radius of disc source show focal spot of x-ray tube that here is 0.05 cm. In this simulation, anode is from tungsten with 18.9 g/cm3 density and angle of anode is 180. we simulated x-ray tube for 140 kv. For increasing of speed data acquisition we use F5 tally. With determination the exact position of F5 tally in program, outputs are acquired. In this spectrum the start point is about 0.02 Mev, the absorption edges are about 0.06 Mev and 0.07 Mev and average energy is about 0.05 Mev.

Keywords : x-spectrum, simulation, Monte Carlo, MCNP4C code
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