

DOSIMETRIC QUANTITIES FOR 300 keV NEUTRONS

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ABSTRACT

Dosimetric quantities for 300 keV neutrons in the ICRU standard tissue sphere were evaluated. The Monte Carlo code NEDEP which performs neutron-photon-charged particles coupled transport was used in the direct estimation of absorbed dose and dose equivalent. Some important quantities calculated are as follows :

Deep dose equivalent index $H_{I,d}$: $1.78 \times 10^{-11} \text{ Sv-cm}^2$

Shallow dose equivalent index $H_{I,s}$: $2.08 \times 10^{-11} \text{ Sv-cm}^2$

Ambient dose equivalent $H^*(0.07)$: $1.7 \times 10^{-11} \text{ Sv-cm}^2$

Ambient dose equivalent $H^*(10)$: $1.78 \times 10^{-11} \text{ Sv-cm}^2$

Effective quality factor $\bar{Q}^*(10)$: 12.4