

**Anomalies in electric conductivity in  $\gamma$ -irradiated bone?**

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The effect of  $\gamma$  irradiation with doses of 10 to 1000 kGy on the electric conductivity ( $\sigma$ ) of dry state bone was studied. Measurements of temperature dependence of electrical conductivity were made for the temperature range of 390-530K. The obtained  $T$ - $\sigma$  relationship indicated an increase in  $\sigma$  with temperature. An increase in irradiation dose resulted in a decreased  $\sigma$ , excluding the dose of 1000 kGy. For the dose of 1000 kGy, the increase in  $\sigma$  was observed. Above the temperature of 510K,  $\sigma$  was dose independent. Activation energy for charge conduction process was calculated. The obtained values for electrical conductivity and activation energy were typical for dielectrics and indicated degradation of the organic component of the bone.