

TEMPERATURE TRANSFORMATION OF CO_2^-
RADICALS IN TOOTH ENAMEL

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S u m m a r y

The EPR spectrum near $g = 2$ of the γ -irradiated tooth enamel plates annealed during 30 min at different temperatures up to 320 °C is studied. As is known from the previous publications, the above-mentioned EPR spectrum is mainly caused by radicals CO_2^- which exist in tooth enamel as two types: ordered (oriented definitely) and randomized (disordered). The quantitative examinations of the integrated intensities of individual components of the EPR spectra have been carried out. This analysis has shown that thermal annealing results in a decrease of the total number of paramagnetic centers, while the number of oriented centers increases. This is explained by the transformation of disordered CO_2^- radicals into oriented ones during annealing. The temperature changes of the nearest environment of the disordered radicals which can lead to their orientational ordering are considered.