A MÖSSBAUER STUDY OF THE THERMAL DECOMPOSITION OF $FeC_2O_4 \cdot 2H_2O$

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The thermal decomposition of $FeC_2O_4 \cdot 2H_2O$ in oxidizing atmosphere was studied by Mössbauer spectroscopy. The characteristic spectra of the sample undergoing decomposition remain present nearly to the end of the reaction. In this case the Mössbauer method did not reveal the presence of any intermediate compounds, in spite of the fact that the process was slowed down. It is shown that the thermal decomposition of $FeC_2O_4 \cdot 2H_2O$ can be explained as the formation of an α-Fe_2O_3 microcrystal phase at the surface of $FeC_2O_4 \cdot 2H_2O$ cystallites. The upper limit of the grain size, estimated to be 80 Å, explains the fact that the decomposition product exhibits no regular X-ray diffraction.

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