

I16 CRYOEMISSION OF NITROUS OXIDE AND ETHANOL. DYNAMIC AND ENERGY CHARACTERISTICS.

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Previously [1] we have found that cryodeposition of nitrous oxide at temperatures below 120 K is accompanied by the emission of light in the visible spectrum. It has been determined that the observed radiation is a single light flash duration of about 5×10^{-5} seconds. New experimental data which have appeared in recent years [2, 3] and the more advanced information technologies allow more detailed study of this phenomenon and expand the range of test substances. This paper discusses the results of an experimental study of the dynamic and energy characteristics of cryoemission of nitrous oxide and ethanol.

The measurements were performed in the range of temperatures and pressures condensations 10-20 K and 10^{-5} - 10^{-4} Torr, respectively. It was found that the time to reach the maximum amplitude of the flash emission of nitrous oxide is significantly less than that of ethanol, namely, $t=0,015 \times 10^{-3}$ and $t=0,3 \times 10^{-3}$ seconds, respectively. The emission energy spectra of test substances were measured, which are the narrow emission peaks of different amplitudes and are located in the energy range from 4 eV to 1.2 eV.

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