

TECHNIQUE OF EXPERIMENTAL MEASUREMENTS OF THE OPTICAL THICKNESS OF A PULSE DISCHARGE PLASMA CHANNEL IN WATER ON A CONTOUR REABSORPTION LINES OF HYDROGEN H_{α}

O. A. Fedorovich

In this work the results of development and application of the technique of experimental definition of optical thickness (τ) of the pulse discharge plasma channel in water which are based on the distribution of radiation intensities on contour reabsorption lines of hydrogen H_{α} (656.3 nm) are given. Optical thickness of continuous spectrum was defined by extrapolation of intensities in far wing of contour reabsorption lines of hydrogen H_{α} , where τ value did not vary any more, and the line smoothly transferred in continuous spectrum. The atomic concentration N_a , received on a method of definition of τ on a contour reabsorption lines of hydrogen H_{α} , agreed with calculation obtained from the equation of the plasma state. The recommendations on the correct definition of optical thickness of plasma of pulse discharge in liquids are given.

Keywords: optical thickness, reabsorption lines, continuous spectrum, pulse discharge in water.