LASER SPECTROFLUORIMETRIC DEVICE FOR CLINICAL IDENTIFICATION OF MALIGNANCIES AND THEIR MICROSCOPIC DIAGNOSIS

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Taking into account the proved specificity of induced spectral characteristics of malignant tissues and cells fluorescence there have been developed a pulse laser videofluorimeter with amplifier of image brightness. The device can be conjugated with the endoscopic equipment and fluorescence microscopes.

Specifications are: pulse nitrogen laser with $\lambda = 337\text{nm}$, pulse duration 5ns and pulse rate 50 Hz; - system registration of weak image on the basis of electron-optical image converter with microchannel plates and time resolution 100 ns, image vidicon and TV facility; - block conjugating laser and amplifier of image brightness; - data processing systems on personal computer.

This device allows to register signal in spectral range of 0.4-0.9 μm . Efficiency of photon count is 5-10%.

Some experimental results of malignancies identification and their diagnosis are discussed.