

Abstract

The results of investigations of self-frequency conversion processes in Q-switched regime are presented. The time dynamics of intensities of interactive waves and energy characteristics of radiation at three-frequency and consecutive processes of self-frequency conversion are studied in detail. The optimal parameters of cavity, pump and modulator, which are corresponding to maximal output powers of radiation, have been found. Time and energy characteristics of radiation at self-frequency doubling and self-frequency summing have been experimentally investigated and compared with theoretical results.