

## GENERATION AT 1.32 $\mu\text{m}$ IN Nd:YAG LASER

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**ABSTRACT** *A new model of Q-switched Nd:YAG laser operated at 1.319  $\mu\text{m}$ , for medical and restoration applications, has been presented in the paper. Suitably developed resonator allowed to achieve fundamental mode at the output. By means of Findlay-Clay and Hodgson-Weber methods, passive losses of the resonator have been determined to be 0.3 (i.e. 86% single pass transmission). In free running mode, laser pulses over 200 mJ in energy with slope efficiency about 14% have been obtained, while in Q-switched mode, single pulses of energy up to 40 mJ and durations about 29 ns FWHM (peak power over 1.3 MW) have been generated..*

**Keywords:** *1.32  $\mu\text{m}$  laser, Q-switching, Nd:YAG laser, dispersive resonator*