

GENERATION OF ACOUSTIC WAVES BY Q-SWITCHED Nd:YAG LASER IN SALINE SOLUTION

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ABSTRACT

A Q-switched Nd:YAG laser has been widely used for intraocular surgical applications. Focusing the laser induced optical breakdown associated with an acoustic wave generated. This acoustic wave emanating from the focus region carries energy which may have damaging effects on the other parts of the eye. The aim of this study is to estimate the pressure induced by the acoustic wave in saline solution. In this case, a Q-switched Nd:YAG laser was used as a source of energy. A piezoelectric transducer was employed to detect the acoustic wave signal. The signal detected was used to analyze the magnitude of pressure. The result obtained shows that the pressure is proportional to the energy of the laser.

Keywords: Nd:YAG laser, saline solution, optical breakdown, acoustic wave, pressure