

# Optical breakdown of the oriented surface of sodium chloride

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In this work, the action of laser pulses (thermomechanical ablation) with a duration 80 fs at a wavelength of 1240 nm on oriented surface crystals of sodium chloride was studied [1].

In the case of femtosecond laser pulses, the main mechanism of the surface damage is thermomechanical ablation, which becomes the prevailing mechanism of radiative destruction of sodium chloride, if the duration of the laser pulse is less than 30 ps [2].

The experiments were carried out at the center for collective use of unique scientific equipment “Laser Femtosecond Complex” at the Joint Institute for High Temperatures of the Russian Academy of Sciences, on the terawatt femtosecond chromium–forsterite laser system [3].

A threshold for laser destruction of the (110) NaCl surface was 1.5–2 times greater than that for the (100)-oriented surface [1].

This parameter have been determined surface energy [4,5].

Information about surface energy (111) NaCl obtained [6].

It allows to estimate, that the threshold for laser destruction of the (111) NaCl should be higher than a side in 1.5 times, than for a surface (110), for experiences [1,7].

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