

Laser separation of multilayer structures

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The paper studies the process of simultaneous action of laser ray bundles with different wave-lengths ($\lambda_1=10.6 \mu m$, $\lambda_2=1.06 \mu m$) on multilayer ceramic structures.

The numerical calculations of thermoelastic fields formed in the examined patterns using the finite- element method were made. It was found out that high voltages generated by a solid laser on the line ceramics - multilevel metal coating and the local character of these voltages determine the improvement of the results obtained by means of separation of a multilayer material by a two-beam mode. This improvement is in considerable reduction of the size of warpages and chips from the line of separation.

The obtained results can be used in the process of laser treatment of dielectric materials.