

# Investigation of optical control systems for high voltage power transmission

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## Abstract

The paper determines the range of applications of laser focusators in material processing operations. It proposes a method for changing the radiation intensity and energy deposition parameters based on the use of dynamic focusators (moving elements of computer optics) in accordance with the requirements of thermal treatment technology. The authors estimate the changes in the size and shape of the focal spot, redistribution of the radiation intensity profile, and changes in the focal length caused by the dynamic focusators. Experimental studies to determine the spatial characteristics of radiation have been performed using reflective elements of computer optics produced in the diffractive optics laboratory of the IPSI RAS.

**Keywords:** optical control system, voltage transmission, laser focusator, material processing, dynamic focusator, computer optics, radiation.

**Citation:** Doskolovich LL, Kazanskiy NL, Mordasov VI, Murzin SP, Kharitonov SI. Investigation of optical control systems for high voltage power transmission. *Computer Optics* 2002; 23: 40-43.

[Access full text \(in Russian\)](#)

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