Physical foundations of selecting types and parameters for subsystems of laser wireless power transmission system in space

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Conception of wireless power transmission (WPT) by using focused electromagnetic beams opens principle new possibilities in terrestrial and space power engineering. One of the most promising options of wireless power engineering is the creation of laser WPT systems for solving a variety of space power engineering problems. Effective reception and conversion of laser radiation into electric power needs the use of standard semiconductor photovoltaic (PV) convertors, operating parameters of which correlate to the laser operating parameters. The article analyzes the impact of the various types and parameters of laser transmitting and receiver subsystems into the efficiency of wireless power transmission (WPT) systems as whole.

Keywords: *wireless power transmission, receiver-convertor, laser radiation, electric power, photovoltaic convertor, efficiency.*

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