激光技术

半桥零电流准谐振CO2激光器开关电源数学模型的构建

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摘要　　分析了半桥零电流(ZCS)准谐振CO2激光器电源的工作原理和电路结构，构建了其数学模型。采用编写的MATLAB程序对所建模型进行了仿真，验证了该数学模型的合理性。该数学模型为半桥ZCS准谐振激光器电源的参数设计提供具有一定的实用价值。

关键词　　零电流　准谐振　CO2激光器　开关电源　数学模型

Mathematical model for half　bridge ZCS quasi　resonant CO2 laser switching power supply

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Abstract　The operation principle and circuit structure of half　bridge zero　current quasi　resonant CO2 laser switching power supply are presented and analyzed, and its mathematical model is established. The mathematical model was simulated with MATL... verified by the experiment. It could be used as a reliable reference for system parameter design of the half　bridge zero　current quasi　resonant CO2 laser switching power supply.

Key words　zero　current　quasi　resonant　CO2 laser　switching power supply　mathematical model

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