Optimization of gas flow velocity for maximum output of a fast-axial-flow CW CO2 laser using genetic algorithms

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(Received 23 July 2008 ; in final form 2 May 2010)

Abstract
To obtain the maximum output power of a fast-axial-flow CW-CO2 laser, gas flow velocity can be optimized by using genetic algorithms. Our theoretical approach shows that the gas flow velocity after optimization increases the laser output power substantially from 500W, obtained in our present system, to 2203W.

Keywords: genetic algorithms, fast-axial-flow CW-CO2 laser, gas-flow velocity, optimization

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