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A Theoretical Analysis of Transverse Mode Control in Waveguide Gas Lasers

Erol TAŞAL, M. Selami KILIÇKAYA

Department of Physics, Osmangazi University, Eskisehir-TURKEY

Abstract: Theoretical of multiple transverse mode laser oscillation involving spatially varying gain and loss are investigated. The effect of gain and loss distribution on mode competition is analyzed. A theoretical analysis of laser transverse mode competition is investigated from the perspective of the spetial overlap of modes with a transverse gain-loss distribution. The dominant mode of laser oscillation is the mode that is stable under small perturbations.

Key Words: Waveguide gas lasers, Two -- mode system, Transverse mode, Gain and loss.

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 [Authors](#)



phys@tubitak.gov.tr

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