

Single-lobe symmetric coupled laser arrays

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Abstract

We propose a new high-power laser in which an array of N lasers is coupled to another of $N + 1$ lasers through Y-junctions. The field distributions of the eigenmodes in the N -array are identical to those of the supermodes in the evanescently coupled laser array. The threshold gain for the lowest-order mode is much lower than the higher-order modes. This strong mode discrimination will enable very high-power single-lobe operation.