

Applied Physics B: Lasers and Optics

Beam shaping laser with controllable gain

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Abstract:

We propose a novel intra-cavity laser beam shaping technique based on the manipulation of the transverse gain profile in the laser crystal. The method allows controllable reshaping of a laser output beam into a desired beam profile. Two laser diodes were used to pump the crystal and to create a desirable pump beam profile. By independent manipulation of output powers of both pump diodes, we are able to perform a controllable operation of the laser output intensity profile.