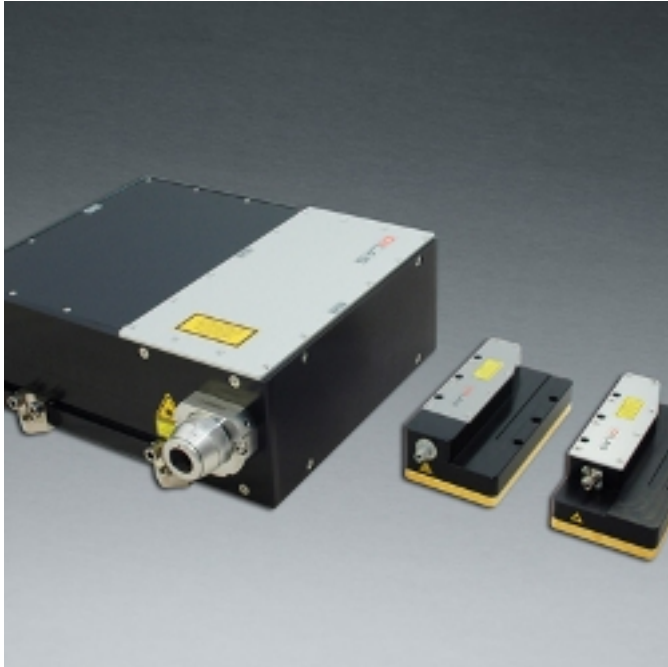


High-Brightness, High-Efficiency Fiber-Coupled Diode Laser



DILAS, the diode laser company, has developed a modular diode laser concept combining high power, high brightness, wavelength stabilization and low weight, important requirements for a multitude of applications.

Through the optimization of semiconductor chip structures and optical parameters, DILAS has developed the tailored bar (T-Bar) architecture, delivering high beam quality and high power using standard micro-optic fast-axis collimators (FAC) and slow-axis collimators (SAC), all assembled with automated processes. The device is a monolithic multi-emitter source which takes advantage of handling multiple emitters during each individual manufacturing step in order to lower complexity and enhance reproducibility of the beam quality and, hence, the fiber coupling.

Lab results demonstrated that the optical output power is scaled from 180W coupled into a 100 μ m NA0.22 fiber up to 1.7kW coupled into a 400 μ m NA 0.22 fiber. In addition, a lightweight laser unit with an output power of more than 300W for a 200 μ m NA0.22 fiber with a weight vs. power ratio of only 0.9kg/kW can be presented.

DILAS

www.DILAS.com [1]

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