High-brightness wave fiber hard tail

Overview

In this paper, the development of a high-power continuous wave (CW) fiber laser near 980 nm is reviewed. Fiber lasers are widely used in various fields owing to their high efficiency, flexible transmission and excellent beam quality. In applications such as industrial manufacturing and defense systems, a higher output power is always desired. The Ho:YAG SCF grown by the micro-pulling-down technique exhibits a propagation loss of 0. 2 W. CO2 and YAG lasers are routinely capable of producing cw output powers in the range of sub-W to multi-kW and as such have become the mainstay of the laser cutting and welding industry.

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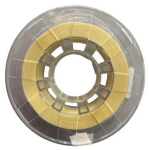
	In this study, a high-power multimode fiber laser amplifier based on wavefront shaping is constructed and investigated, achieving a focused beam profile with a 168 W output power.
	Here we report two high brightness monolithic cw fiber laser sources at 1080 nm. Both lasers consist of a cw fiber laser oscillator and one laser-diode pumped double cladding fiber amplifier in the master ...
	To the best of our knowledge, this is the first detailed report for >5-kW near-diffraction-limited and >8-kW high-brightness monolithic fiber lasers directly pumped by laser diodes.
	This improvement in pump module brightness is driven by the needs of the industrial and directed energy CWFL markets and the continuously evolving application space for high-brightness, multi-kW ...
	Here, we explored a highly multimode fiber amplifier in which stimulated Brillouin scattering was greatly suppressed due to a reduction of light intensity in a large fiber core and a broadening of ...

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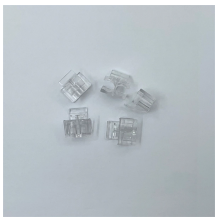
In fiber lasers, the light is mainly generated and amplified by the stimulated emission of active ions in the rear-earth-doped fibers. Fiber lasers ...

The laser performance in the CW regime is investigated in the present work by utilizing a high-brightness Tm-fiber laser at 1908 nm for the resonant pumping of a Ho:YAG SCF grown by the micro ...



This simple and robust all-fiber design is particularly attractive for further power scaling to >10kW using multiple-beam combining techniques, and is promising to facilitate a broad variety of practical ...

In fiber lasers, the light is mainly generated and amplified by the stimulated emission of active ions in the rear-earth-doped fibers. Fiber lasers have certain advantages, such as high power, ...

A method has been proposed to suppress the 1030 nm amplified spontaneous emission (ASE) of 980 nm ytterbium-doped fiber laser (YDFL) by embedding a chirped and tilted fiber Bragg ...

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