

The Review of Laser Engineering

THE LASER SOCIETY OF JAPAN

[Available Issues](#) | [Japanese](#)>> [Publisher Site](#)Author: [ADVANCED](#)Volume Page Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1349-6603

PRINT ISSN : 0387-0200

The Review of Laser Engineering

Vol. 31 (2003) , No. 8 p.513

[\[Image PDF \(1268K\)\]](#) [\[References\]](#)

Slab-Shaped 10-kW All-Solid-State Laser

[Yuji NISHIKAWA](#)¹⁾

1) Laser Laboratory, FANUC Ltd.

(Received: February 3, 2003)

Abstract: This paper describes the development of diode-pumped high-power slab Nd:YAG lasers. Employing the laser diode pumping method, we realized a highly -efficient, high-power zigzag-slab laser with a small laser head volume. We found that it is still very important to realize the uniform pumped state and to greatly reduce the thermal lens even when using the slab media. After optimizing the pumping head, we obtained an average output power of 6.1 kW using a single YAG crystal with a laser head volume of 0.01 m³. Employing the polarization coupling method for two beams from two slab YAG lasers, we realized an average output power of 10.2 kW, an efficiency of 20.1 % and a laser head volume of 0.046 m³.

Key Words: [All solid-state laser](#), [Slab](#), [Diode-pumped](#), [High power](#)

[\[Image PDF \(1268K\)\]](#) [\[References\]](#)Download Meta of Article[\[Help\]](#)[RIS](#)[BibTeX](#)

To cite this article:

Yuji NISHIKAWA: The Review of Laser Engineering, Vol. **31**, (2003) p.513 .



[Japan Science and Technology Information Aggregator, Electronic](#)

