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ABSTRACT**High power semiconductor laser apparatus
with improved fiber coupling efficiency and laser spectrum**

A high power semiconductor laser apparatus is realized by incorporating a laser diode array having a plurality of light emitters and a coupler having a plurality of input channel waveguides to receive and to lock the light emitted from the said light emitters, and at least one output channel waveguide. A Bragg reflector is formed on each of the input channel waveguides adapted for a predetermined wavelength. In laser apparatus, the said input channel waveguides are adopted for a plurality of wavelengths ($\lambda_1, \lambda_2, \dots, \lambda_i, \dots, \lambda_n$), being within the bandwidth of the said light emitter of the laser diode array, and wherein the wavelength spacing between the input channel waveguide, $\Delta\lambda_i = \lambda_i - \lambda_{i-1}$, is substantially constant. The high power semiconductor laser apparatus can be used as the pump light source for the Raman amplifier or the high power erbium-doped fiber amplifier in dense wavelength division multiplex (DWDM) optical communication systems. A plurality of optical lens array may be disposed between the said laser diode array and the input channel waveguides for collimating the light emitted from the light emitters.

(Fig. 2)



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