Comments and Corrections

Corrections to "CW Gain Characteristics of Linear Optical Amplifiers"

W. Zheng and G. W. Taylor

In the above paper [1, Sec. II, p. 715], equation (3) was left out of the final printing. The text should have read as follows:

The stimulated lifetime τ_{sti} has been derived as [7]

$$\tau_{sti}^{-1} = u \ln\left[\frac{\left(1+e^{E_{\rm Fp}/kT}\right)\left(1+e^{-E_{\rm Fn}/kT}\right)}{\left(1+e^{(h\bar{\nu}_i-E_{\rm Fn})/kT}\right)\left(1+e^{-(h\bar{\nu}_i-E_{\rm Fp})/kT}\right)}\right]$$
$$u = \frac{D_n D_p}{L_z^2} hkT\bar{B} \quad (3)$$

where D_n and D_p are the electron and hole densities of states, respectively, $\bar{B}$ is the modified Einstein coefficient and $h\bar{\nu}_i = h\nu_i - (E_g + E_{1p} + E_{1n})$ is the energy difference between laser output and QW bandgap between first subband energies of electrons and holes.

Also, in Fig. 4–6, the horizontal position should be in centimeters instead of microns. The corrected figures are printed.

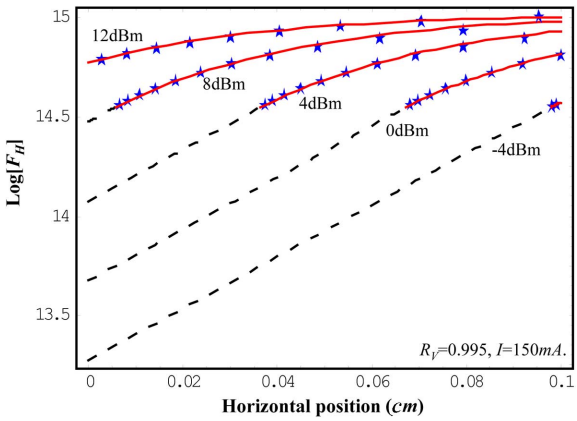

Fig. 4. Log plot of the distribution of the LOA photon density along the amplifier's cavity at $I = 150$ mA and various signal power for a single-wavelength input $\lambda = 1540$ nm. (Dashed lines represent direct solutions in Region I; Stars represent numerical solutions and solid lines represent analytical solutions in Region II. This is same in Figs. 5 and 6).

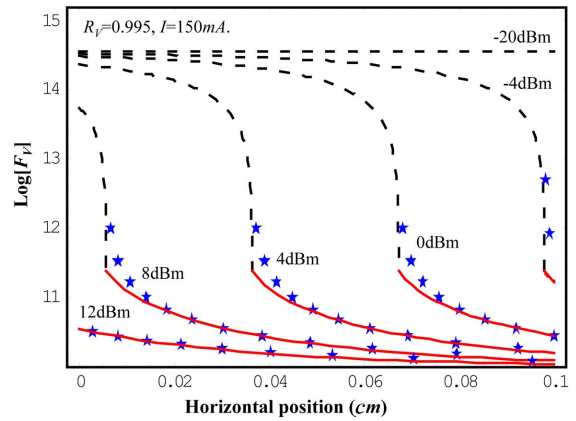

Fig. 5. Log plot of the distribution of the VCSEL photon density along the amplifier's cavity at $I = 150$ mA and various signal power for a single-wavelength input $\lambda = 1540$ nm.

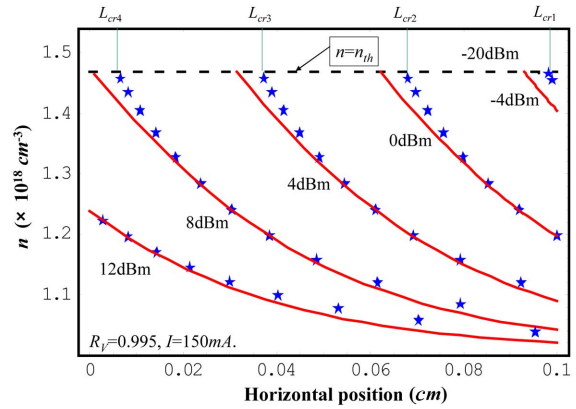

Fig. 6. Electron density profile at $I = 150$ mA and various signal power for a single-wavelength input $\lambda = 1540$ nm.

References

[1] W. Zheng and G. W. Taylor, "CW Gain Characteristics of Linear Optical Amplifiers," *IEEE J. Quantum Electron.*, vol. 43, no. 8, pp. 714–721, Aug. 2007.

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