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ABSTRACT OF THE DISCLOSURE

A method for using atomic layer epitaxy (ALE) and/or migration enhanced epitaxy (MEE) to grow high efficiency quantum wells in II-VI laser diodes. The substrate and previously grown layers of the laser diode are heated to a temperature less than or equal to about 200°C in an MBE chamber. Sources of Cd, Zn, and Se are injected alternately into the chamber to grow a short-period strained-layer superlattice (SPSLS) quantum well layer including overlaying monolayers of Cd, Zn and Se. The quantum well layer is described by the notation $[(\text{CdSe})_m(\text{ZnSe})_n]_p$ where m, n and p are integers.

15

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