ABSTRACT:

In the past twenty years the semiconductor laser has become a key device in optical electronics because of its pure output spectrum and high quantum efficiency. As the capabilities of laser diodes have grown, so has the range of applications contemplated for them. The laser performance successes gained using quantum wells in optoelectronic devices can be extended by adopting quantum dot structures. This paper is intended to convey the flavour of the subject by focussing on the technology and applications of self-assembled quantum dots and to give an elementary introduction to some of the essential characteristics.