

Semiconductor Laser Physics



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Written for readers who have some background in solid state physics but do not necessarily possess any knowledge of semiconductor lasers, this book provides a comprehensive and concise account of fundamental semiconductor laser physics, technology and properties.

Physics of Semiconductor Lasers - 1st Edition - Elsevier

Most semiconductor lasers are laser diodes, which are pumped with an electrical current in a region where an n-doped and a p-doped semiconductor material meet. However, there are also optically pumped semiconductor lasers, where carriers are generated by absorbed pump light, and quantum cascade lasers, where intraband transitions are utilized.

semiconductor lasers, laser diodes - RP Photonics

Our view will be semiconductor laser physics centric as we would argue that the QD laser is most similar to, and indeed is, a semiconductor laser and we begin with a brief description of a quantum-well (QW) semiconductor laser as this contains the essential elements of how a QD laser works.

Semiconductor Lasers - an overview | ScienceDirect Topics

Semiconductor-Laser Physics discusses the underlying physics and operational principles of semiconductor lasers. The optical and electronic properties of the semiconductor medium are analyzed in detail, including quantum confinement and gain engineering effects. A semiclassical and a quantum version of the laser theory are presented, including ...

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Semiconductor-Laser Physics | SpringerLink

It is a little known fact, that Ms Spears is an expert in semiconductor physics. Not content with just singing and acting, in the following pages, she will guide you in the fundamentals of the vital semiconductor laser components that have made it possible to hear her super music in a digital format.

Britney Spears' Guide to Semiconductor Physics - Lasers ...

Today lasers are used in many different areas such as communication, industry, medicine, and environmental care and research. The laser has become one of the most powerful tools for scientists in physics, chemistry, biology and medicine throughout the world [16]. The semiconductor laser has become es-

Semiconductor Lasers - dvikan.no

Semiconductor laser. Semiconductor lasers play an important role in our everyday life. These lasers are very cheap, compact size and consume low power. Semiconductor lasers are also known as laser diodes. Semiconductor lasers are different from solid-state lasers.

LASER - physics-and-radio-electronics.com

Semiconductor Lasers . Direct-Gap vs. Indirect-Gap $E(\text{energy})$ k (momentum) ... Semiconductor junction lasers . Edge-Emitting Homojunction Laser Diodes •Waveguide Modes $e_h, t_h, n, e_d, j, +v$ Polished facets p-GaAs n-GaAs L_g 100 m Homojunction Lasers have very high current threshold mainly because.

Semiconductor Lasers - Physics & Astronomy

For the first time, researchers have used a laser as a radio transmitter and receiver, paving the way for towards ultra-high-speed Wi-Fi and new types of hybrid electronic-photonics devices.

The first laser radio transmitter: Researchers transmit ...

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Semiconductor-Laser Physics (eBook, 1994) [WorldCat.org]

Application / Uses of Semiconductor Lasers. The semiconductor laser can be pulsed at varying rate and pulse widths. Therefore this laser is a natural transmitter of digital data. Semiconductor laser is well suited for interface with fiber optic cables used in communication. Advantages of Semiconductor Lasers

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