Special Issue

Emerging Trends in Ultra-Stable Semiconductor Lasers

Message from the Guest Editors

Semiconductor lasers offer fundamental advantages, including compact size, low power consumption, spectral versatility, and exceptional reliability, making them indispensable in optical communications, quantum sensing, and precision metrology. Among their key performance metrics, laser linewidth stands out as a critical indicator of coherence, playing a pivotal role in system evaluation. To achieve linewidth narrowing, two primary approaches are widely employed: optical feedback and electrical feedback techniques. These advancements are accelerating the adoption of semiconductor lasers across diverse industries, including the following:

- Laser sonar systems;
- Atomic clocks;
- Atomic gravimeters;
- Atomic magnetometers;
- Atomic gyroscopes;
- LIDAR systems;
- Rydberg atom-based radar;
- Optical communication networks.

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

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