Special Issue

Coherent THz Sources in Integrated Circuits at Room Temperature

Message from the Guest Editor

The search for coherent THz sources has been of crucial importance during the last decade due to their use in both technological and medical applications. Integrated-circuit solutions, operating at room temperature, render fabrication cheaper, more flexible, and scalable. Scalability and reproducibility are appealing features of integrated circuit technology as they allow for both emission and detection control via a technique called aperture synthesis. In this context, two-dimensional materials, such as graphene, topological insulators, and metamaterials, are promising candidates for such integrated, compact, and scalable solutions as they can operate at room temperature. Topology, in particular, contributes additional features to THz radiation, namely helicity-dependent emission and orbital angular momentum (OAM), adding to the applications of quantum optics and plasmonics in the THz range. The SI aims to highlight research on coherent sources of THz based on integrated circuit technology. We are particularly interested in generation and detection solutions produced in a joint effort of the photonics, condensed matter, quantum optics, and nano-fabrication research communities.

Guest Editor

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You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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