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Special Issue on

Mid-Infrared Laser Sources and their Applications

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Recently, mid-infrared lasers in the wavelength range from 2 μm to 20 μm have attracted wide attention in the laser community. Since mid-infrared spectral region contains vibration and rotation fingerprint spectra of many important gas molecules, mid-infrared lasers provide a desirable optical source for molecule spectroscopy and gas sensing. In addition, mid-infrared region covers the two transparent atmospheric windows (i.e., 3-5 μm, 8-13 μm); thus mid-infrared lasers can offer new opportunities for a series of emerging space applications, such as remote sensing and free-space communications. Nowadays, as new mid-infrared laser sources arise, they are continuously opening up a large range of new applications in the industry, scientific research, and military fields.

The present special issue aims to publish high-quality original research and review articles that reflect the recent development on mid-infrared laser sources and their applications and discuss the prospects and challenges of mid-infrared lasers.

Potential topics include but are not limited to the following:

- Mid-infrared solid-state lasers
- Mid-infrared fiber lasers
- Mid-infrared optical parametric oscillators and amplifiers
- Mid-infrared difference frequency generation
- Mid-infrared supercontinuum generation
- Quantum cascade lasers
- Novel mid-infrared laser materials
- Applications of mid-infrared lasers

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