



Ultrafast Lasers: Science and Applications

Guest Editor:

Dr. Ekaterina A. Migal

Faculty of Physics, Lomonosov
Moscow State University, 119991
Moscow, Russia

Deadline for manuscript
submissions:
closed (15 January 2023)

Message from the Guest Editor

Dear Colleagues,

The recent advances in ultrafast lasers have pushed peak output power up to a multi-PW level, the pulse duration into a single cycle limit, crossing the 1 fs milestone, and extended the operation wavelength from extreme UV through near- and mid-IR to THz spectral region.

This Special Issue will highlight the most recent progress in ultrafast lasers, from new technologies to applications. It will also provide a better understanding on the state-of-the-art technologies, discuss current difficulties in ultrafast pulse generation and inspire new ideas for its applications in ultrafast science.

Topics of interest include, but are not limited to, the following:

- Advances in femtosecond pulse generation from solid state and fiber sources: novel lasers and amplifiers;
- Ultrashort-pulse semiconductor lasers;
- Wavelength tuning techniques and tunable lasers including ultrafast parametric amplifiers, parametric chirped pulse amplifiers, Raman lasers;
- Pulse compression and shaping;
- Ultrafast optoelectronic systems and devices;
- Advanced laser architectures including hybrid systems;
- High-power and high-energy lasers for large-scale facilities.

