

Special Issue

Advanced Optoelectronic Ultra-Precision Manufacturing Technology and Applications

Message from the Guest Editors

Photoelectric ultra-precision manufacturing technology is the core driving force for the development of the modern optoelectronic industry. Its precision has reached the nanometer level, and it is widely used in the fields of optical components, micro–nano-devices and semiconductor manufacturing. This Special Issue focuses on innovative breakthroughs in ultra-precision machining processes, covering cutting-edge technologies such as ultra-precision cutting/grinding, laser micro–nano-machining, and ion beam etching. It also explores their applications in scenarios like optical communication, biomedical imaging and quantum computing. We welcome original work focusing on ultra-precision processes and measurement, including, but not limited to, laser micro–nano-machining and femtosecond direct writing, ion beam/reactive ion etching, ultra-precision diamond turning and grinding, polishing, nanoimprint lithography, wafer bonding, micro–nano 3D printing and hybrid manufacturing, as well as AFM/SEM characterization, on-machine measurement.

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