
Editorial

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Biographical notes: Jiawang Yan is an Associate Professor in the Department of Nanomechanics, Graduate School of Engineering, Tohoku University, Japan. His research interests are currently focused on ultraprecision machining of materials, fabrication of micro-structures and functional surfaces, laser processing of semiconductors and nanomachining mechanics. He has published 6 invited book chapters and over 100 papers in scientific journals and conference proceedings. He has received 12 awards from academic societies, international conferences and scientific foundations. He has accomplished a number of governmentally supported research projects as the principal investigator and conducted many joint R&D projects with industry.

Manufacturing of optical and optoelectronic parts has been one of the key areas that support advanced science and technology. Optical and optoelectronic manufacturing serves as the foundation and contributes to various industries such as household cameras and videos, computers, CD and DVD players and recorders, flat panel displays, multimedia products and many other precision instruments. Recently, with the rapid developments of optical, optoelectronic and Micro Electro Mechanical System (MEMS) industries, the requirement on ultraprecision machining technology of new optical and optoelectronic materials keeps increasing. These new materials have special microstructures and mechanical properties, thus the machining mechanisms become very different from conventional materials. For this reason, the clarification of the machining physics in the micro-nano level and the development of novel ultraprecision machining technologies have attracted intensive interests from industrial process developers and multidisciplinary researchers.

Despite various revolutionary changes in the past decades that significantly advanced optical and optoelectronic manufacturing technology, we are still facing new problems and new tasks when fabricating products with higher and higher precision and quality. Understanding the current status and mastering new technologies has become crucial for engineers and researchers working in this area. The purpose of this Special Issue on Ultraprecision Machining of Optoelectronic Materials of *International Journal of Machining and Machinability of Materials (IJMMM)* is to provide a forum for researchers and engineers to review recent achievements and new advances in this area and to identify possible research directions in future.

From a large number of submissions, ten papers were finally selected for inclusion in this Special Issue based on peer review processes. The first four papers

provide fundamental investigation results on micro-nano level machining mechanisms of single-point machining and abrasive machining processes of new materials. The following three papers deal with new methods and conceptions for fabricating curved precision optical components or other microstructures. The last three papers are focused on the measurement and evaluation of subsurface damages of precision machined products. These papers cover a broad area ranging from developments and applications at the shop level to scientific investigations at the academic level. I hope this Special Issue is timely in delivering the latest achievements to the related R&D community and also hope it can stimulate more interests in the field of optical and optoelectronic manufacturing research.

As the guest editor, I would like to take this opportunity to thank all the authors for the time and effort they spent in preparing their papers and revising their manuscripts according to the referees' comments. I would also like to express my gratitude to the referees who reviewed these papers and made valuable comments. Finally, I would like to gratefully acknowledge the invitation and support provided by Prof. J. Paulo Davim, Editor-in-Chief of the *IJMMM journal*.