International Journal of Automation Technology (IJAT)

Call for Papers:

Special Issue on Abrasive Technology for High-Precision and High-Efficiency Machining of High-Performance Materials

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Demand for the high-precision and high-efficiency machining of high-performance materials and components has increased in various industries, such as the optical, automotive, and communication industries, as well as in the life and medical sciences. Some difficult-to-machine materials can be reliably machined using deterministic precision-cutting processes. However, hard and brittle materials, such as ceramics, carbides, hardened steel for molds, glassy materials, or semiconductor materials, have to be machined using precision abrasive technologies that use super abrasives of diamond, cBN, or new tool materials. Using abrasive processes to machine high-precision components and their molds/dies, however, is very difficult because of the complex, non-deterministic natures and textured surfaces of the machined surfaces. High-energy processes, such as laser technology, can assist abrasive technologies to ensure higher precision and efficiency. Then, precision grinding and polishing processes are primarily used to generate high-quality and functional components that are usually made of difficult-to-machine materials. The surface quality achievable through precision grinding and polishing processes increases in importance when the machining time and costs are considered.

This special issue covers the advanced-abrasive processing technologies, including grinding, lapping, polishing, abrasive-jet processing, vibration-assisted abrasive processing, magnetic-field-assisted processing, and energy-assisted abrasive processing, plus related abrasive technologies and others.

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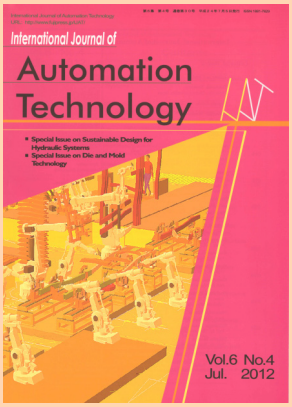

Pages and important deadlines:

Number of pages: Average 8 printed pages
Manuscripts should be in IJAT formats of Microsoft Word, TeX.

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