

Special Issue on

Advanced Cutting Science and Technologies

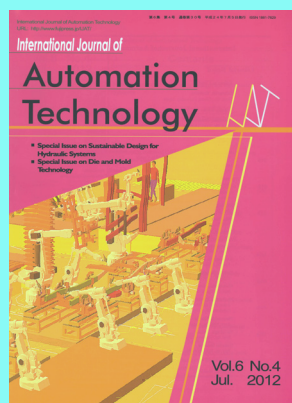
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Cutting technologies have been widely applied to the manufacturing of products for the aircraft, automobile, medical, energy, and information industries. Cutting operations are generally evaluated in terms of their material removal rates and surface qualities. Material properties have also been improved in material science and engineering. Because workpiece materials have become difficult to cut, scientific work should be done to achieve high performance in difficult-to-cut materials, such as nickel-based super alloy. The cutting technologies for brittle materials require high quality for medical or information devices. Products with complex shapes have recently been required for manufactured products with multi-axis machinings in several industries. Therefore, cutting operations should be well organized with controls, simulations, and monitoring. This special issue invites papers in the following areas:

- cutting mechanisms, including chip formation, temperature, and tool damage, including wear and failure control of machining qualities, such as accuracy, surface finish, residual stress, and affected layers
- model-based cutting simulations in turning, milling, drilling, etc.
- micro- and nano-scale cutting processes
- cutting processes for difficult-to-cut metals, such as titanium alloy, and brittle materials, such as glass
- cutting controls in multi-axis machining or multi-tasking machining
- control, simulation, and monitoring of cutting processes
- material-related research, such as studies on built-up edges and microstructures in materials
- characterization and analysis of surface finishes

*Speedy Review (1-2months for the first review)

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Pages and important deadlines:

Number of pages: 8 pages (but no limit) / 8,000 words

Manuscripts should be in IJAT formats of Microsoft Word, TeX.

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