HIGH SPEED MACHINING
Modern Manufacturing Technologies

Journal is closed for submission since 1st of August 2017

past Topical Issues:

- Machining Difficult-to-Cut Materials

High Speed Machining is a peer-reviewed, electronic-only journal that publishes original, high-quality research results on topics broadly related to advanced technologies and systems which allow materials to be processed at very high speeds to achieve drastic improvement in both productivity and quality at equal or lower cost. In addition to a focus on the most successful and critical application of high speed end-milling of structural components in the aerospace industry, this Journal also seeks to publish original and review articles that advance productivity and quality of conventional and non-conventional material processing technologies.

The aim of HSM is to become a premier source of knowledge and a worldwide-recognized platform of exchanging new findings for scientists of different disciplinary origins and backgrounds (e.g., engineers, researchers, technology managers, machine tool builders, end users, and educators) who are interested in pursuing breakthroughs in productivity and quality in both conventional and non-conventional material processing technologies. The Journal publishes original research from a broad range of topics and approaches critical to new application areas of HSM; machine and component design for reliable implementation of HSM; modeling, monitoring, and control of high speed machining processes; integration of HSM with new manufacturing paradigms; reliability and cost control of HSM.

The topics include, but not limited to:

- HSM of aluminum and other non-ferrous metals
- HSM of hardened materials in die/mold manufacturing
- HSM of advanced materials such as composite and ceramics
- Applications of HSM in the production of modern gadgets, medical devices, ICs, etc
- High speed spindle technologies
- Cutting tools for high speed machining
- Surface engineering for cutting tools in HSM
- Tool interface design and automation
- High speed motor drive technology
- High speed actuators and servo control
- Machine structure dynamics: stiffness, damping, and vibration
- Cooling and lubrication strategies
- Chatter suppression
- Machining force control for achieving maximum feed rate without the risk of tool breakage
- Bearing thermal stability and preload monitoring
- Modeling of HSM processes
- Precision and quality control of HSM
- System integration: sensors, controller architecture, software development, user interface, and factory implementation
- Integration with new manufacturing paradigms, such as additive manufacturing
- CAD/CAM, process planning, and factory layout to take advantages of HSM
- Reliability and cost control of high speed machining
- High speed implementation of non-conventional manufacturing processes, such as high speed laser cutting, water-jet cutting, plasma etching, EDM, etc.

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