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Titolo	Precision machining VI [[electronic resource]] : selected, peer reviewed papers from the 6th International Congress of Precision Machining (ICPM2011), September 13-15, 2011, LJMU, Liverpool, Merseyside, UK / / edited by Michael N. Morgan, Andrew Shaw and Otar Mgaloblishvili
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Collana	Key engineering materials, , 1662-9809 ; ; v. 496
Altri autori (Persone)	MorganMichael N ShawAndrew MgaloblishviliOtar
Disciplina	681
Soggetti	Manufacturing processes Machining Electronic books.
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Precision Machining VI; Preface, Sponsors and Committees; Table of Contents; Chapter 1: Grinding Processes (1): Modeling and Surface Quality; Polishing Silicon Wafers with the Nanodiamond Abrasive Tools Prepared by Sol-Gel Technique; Calculation of Effective Ground Depth of Cut by Means of Grinding Process Model; Grindability of Single Crystal Sapphire in Medical Use and the Scheme of Forming Highly Precise Spherical Heads; Error Size of the Helix (screw) Groove by Grinding; Influence of the Corrosion Surrounding on Surface Quality of Grounded Hardened Steels Chapter 2: Special Session - Laser ManufacturingNew Laser Machine Tools for Processing Carbon Fibre Reinforced Plastic (CFRP); Advanced Fiber Laser Perforation Technology for Thermoplastic Pre-Preg Material; Laser Assisted Micro Grinding of High Strength Materials; Transformation ""Insulator-Conductor"" after Laser Irradiation of the Polymer Films; Fibre Laser Cleaning of Grinding Wheels; Comparison of Picosecond and Femtosecond Laser Ablation for Surface Engraving of Metals and Semiconductors; Chapter 3: Cutting Tool Technology:

Coatings

Ecologically Friendly Dry Machining by Cutting Tool from Layered Composition Ceramic with Nano-Scale Multilayered CoatingsTool Coatings with the Effect of Adaptation to Cutting Conditions; The Influence of Machining Condition Forming Multilayer Coatings for Cutting Tools; Wear Resistance of Coatings for the Cutting Tool; High Speed Turning of Ti-6Al-4V Alloy with Straight Cemented Carbide and PVD Coated Carbide Tools; Chapter 4: Rotor Design and Vibratory Mass Finishing; Analysis of New Designs of Rotors with Variable Geometry Parameters and Results of their Tests

Investigation of Thermally Treated Recyled Glass as a Vibratory Mass Finishing MediaChapter 5: Grinding Processes (2): Modeling and Surface Quality; Experimental Evaluation of Grinding Mechanism in Micro Depth of Cut; Thermodynamics of Precision Diamond Lapping of Ceramic Surfaces; Bearing Surfaces with Sapphire for Total Hip-Joint Replacement; A Model of Forming the Surface Layer of Ceramic Parts Based on Silicon Nitride in the Grinding Process; New Ways in Aluminium Alloys Grinding; Chapter 6: Advanced Manufacturing Technology: Cutting; Turning of Inconel 718 by Cemented Carbides Pulsed Processes when Cutting Heat-Resistant AlloysSingle Point Diamond Turning of Single Crystal Silicon Carbide: Molecular Dynamic Simulation Study; An Investigation on Improved Theoretical Modelling for Surface Generation in Nanometric Cutting; Numerical Research of the Plastic Strain in Hard Turning in Case of Orthogonal Cutting; Theory and Practice of Technology for Machining Non-Rigid Smooth Shafts; Chapter 7: Precision Surfaces: Accuracy and Characterisation; Surface Integrity in Notches Machining; Reactive Atom Plasma for Rapid Figure Correction of Optical Surfaces

Optimizing Heat Transfer Rate in an Internally Cooled Cutting Tool: FE-Based Design Analysis and Experimental Study

Sommario/riassunto

The main aim of this collection of peer-reviewed papers is to promote the topics of precision manufacturing and machining practice, together with manufacturing research and education. The 44 papers are divided into chapters covering: machining, grinding processes, cutting-tool technology, coatings, rotor design and vibratory mass finishing, cutting, precision surfaces, simulation and drilling. It offers a succinct guide to these fields. Review from Book News Inc.: The biennial Congress is organized by an independent body established by Czech universities. The 44 papers from the sixth sitting c