

1. Record Nr.	UNINA9910254217703321
Autore	Liang Steven
Titolo	Analysis of Machining and Machine Tools [[electronic resource] /] / by Steven Liang, Albert J. Shih
Pubbl/distr/stampa	New York, NY : , : Springer US : , : Imprint : Springer, , 2016
ISBN	1-4899-7645-0
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XIV, 230 p. 158 illus., 41 illus. in color.)
Disciplina	671.35
Soggetti	Manufactures Machinery Mechanics Mechanics, Applied Manufacturing, Machines, Tools, Processes Machinery and Machine Elements Solid Mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Introduction -- Single Point Cutting Processes -- Multiple Point Cutting Processes -- Grinding Processes -- Machine Tool Components -- Machine Tool Accuracy and Metrology -- Mechanics of Machining -- Shear Stress in Cutting -- Cutting Temperature and Thermal Analysis -- Machine Tool Chatter -- Electrical Discharge Machining -- Electrochemical Machining, Chemical Machining and Chemical Mechanical Polishing Processes -- Laser and Electron Beam Machining -- Biomedical Machining.
Sommario/riassunto	This book delivers the fundamental science and mechanics of machining and machine tools by presenting systematic and quantitative knowledge in the form of process mechanics and physics. It gives readers a solid command of machining science and engineering, and familiarizes them with the geometry and functionality requirements of creating parts and components in today's markets. The authors address traditional machining topics, such as: single and multiple point cutting processes grinding components accuracy and metrology shear stress in cutting cutting temperature and analysis chatter They also

address non-traditional machining, such as: electrical discharge machining electrochemical machining laser and electron beam machining A chapter on biomedical machining is also included. This book is appropriate for advanced undergraduate and graduate mechanical engineering students, manufacturing engineers, and researchers. Each chapter contains examples, exercises and their solutions, and homework problems that reflect practical industrial applications. The authors provide a platform for mastering the basic theories and fundamental principles of machining so that readers will be able to effectively handle new materials, tools, machines, and configurations long after they put the book down.
