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Nota di contenuto	Intro -- MACHINE TOOLS: DESIGN, RELIABILITY AND SAFETY -- MACHINE TOOLS: DESIGN, RELIABILITY AND SAFETY -- Library of Congress Cataloging-in-Publication Data -- CONTENTS -- PREFACE -- Chapter 1: MANUFACTURING PROCESS PLANNING BASED ON RELIABILITY ANALYSIS OF MACHINES AND TOOLS -- ABSTRACT -- 1. INTRODUCTION -- 2. PROCESS PLANNING IN MANUFACTURING SYSTEMS -- 2.1. Process Planning Function -- 3. RELIABILITY CONCEPTS -- 4. RELIABILITY FACTORS IN MACHININGMANUFACTURING PROCESS -- 4.1. Operator -- 4.2. Machine -- 4.3. Tool -- 4.4. Applications of Tool Reliability Analysis -- 4.5. Calculating Reliability of a Part Manufacturing Process -- 4.6. Manufacturing Process Reliability Analysis and Tool Change TimeBased on Reliability -- 5. APPLICATION -- 5.1. Precision Manufacturing Process Failure Mode and Effects Analysis -- 5.2. Reliability of Manufacturing Process -- 6. CONCLUSION -- REFERENCES -- Chapter 2: DYNAMIC STUDY OF A CENTERLESS GRINDING MACHINE THROUGH ADVANCED SIMULATION TOOLS -- ABSTRACT -- 1. INTRODUCTION -- 2. SYSTEM MODELLING -- 2.1. FE Model -- 2.2. Experimental Analysis -- 2.3. Comparison between Numerical and Experimental Natural Frequencies -- 2.4. FE Model Updating Process -- 2.5. Study of the Updated FE Model -- 3. DEVELOPMENT OF THE REDUCED MODEL -- 3.1. Damping Consideration -- 3.2. Obtaining State-Space Models -- 3.3. Reduction Procedure -- 3.4. Comparison of FRFs -- 4. VALIDATION OF THE

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these components work properly to ensure safety. This book examines fault monitoring and control schemes in machine systems, as well as detecting machines whenever a failure occurs and accommodating the failures as soon as possible. Also discussed are centre-less grinding machines; improving machine tool performance through structural and process dynamics modelling and exploring the strength of the Japanese machine tool industry.
