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Altri autori (Persone)	Stout, K. J. Blunt, Liamauthor
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Nota di contenuto	Part I: Development of Surface Characterization -- 1. History of the subject 2. Development of surface parameters 3. Progress in filtering 4. Instrumentation 5. Development of integrated 3-D parameter set 6. Future Developments 7. Contents of the proposed standard. Part II: Instruments and Measurement Techniques of Three-dimensional Surface Topography -- 1. Introduction 2. Differences in measurement and analysis methods for 3-D and 3-D surface topography 3. Stylus instruments 4. Optical instruments 5. Non-optical scanning microscopy 6. Characteristics of the different types of available instruments 7. Conclusions. Part III: Filtering Technology for Three-Dimensional Surface Topography Analysis. 1. Nomenclature 2. Introduction 3. History of surface data filters 4. 3-D general filtering techniques 5. Robust filters 6. The problems of frequency domain filters 7. Wavelet digital filters 8. Motif filters 9. Conclusion. Part IV: Visualization Techniques and Parameters for Characterizing Three-Dimensional Surface Topography 1. Nomenclature 2. Introduction 3. Surface topography in three dimensions 4. Visualization techniques 5. Specification of parameters 6. A primary parameter set amplitude, height distribution, spatial, hybrid and functional. Part V: Applications

of Three-Dimensional Surface Metrology 1. Introduction 2. Measurement of a gear surface with a stylus lead screw-driven instrument 3. Measurement of an engine bore surface with a stylus linear motor-driven instrument 4. Measurement of thick-film superconductors with a focus detection instrument 5. Measurement of human skin with a focus detection instrument 6. Measurement of the topography of hip prostheses using phase shifting interferometer 7. Measurement of a polished brass surface using a scanning tunnelling microscope 8. Characterization of surface topography of indentations 9. Conclusions. Part VI: Engineered Surfaces - A Philosophy of Manufacture 1. A philosophy of manufacture 2. The complex interrelationships in producing an engineered surface 3. Surface topographical features and their effect on the functional performance of surfaces 4. Surface mechanical features that can effect the functional performance of surfaces (surface integrity) 5. Subsurface features that can effect the functional performance of surfaces 6. Some examples of engineered surfaces 7. Future approach to the engineered surface 8. An example of a comprehensive testing procedure 9. FE simulations 10. Final comments

Sommario/riassunto

This fully illustrated text explains the basic measurement techniques, describes the commercially available instruments and provides an overview of the current perception of 3-D topography analysis in the academic world and industry, and the commonly used 3-D parameters and plots for the characterizing and visualizing 3-D surface topography. It also includes new sections providing full treatment of surface characterization, filtering technology and engineered surfaces, as well as a fully updated bibliography
