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4.8 Application of space frequency functions 4.9 Conclusions; Chapter 5. Function and surface texture; 5.1 Generic approach; 5.2 Some specific examples in tribology; 5.3 Surface models; 5.4 Summary of function; Chapter 6. Surface finish measurement - general; 6.1 Some quick ways of examining the surface; 6.2 Surface finish instrumentation; 6.3 Comments; Chapter 7. Stylus instruments; 7.1 The stylus; 7.2 Reference; 7.3 Use of skids; 7.4 Pick-up systems; 7.5 Stylus damage; 7.6 Stylus instrument usage; Chapter 8. Optical methods; 8.1 Optical path length; 8.2 Optical penetration 8.3 Resolution and depth of focus 8.4 Comparison between optical and stylus methods; 8.5 Gloss meters; 8.6 Total integrating sphere; 8.7 Diffractometer; 8.8 Interferometry; 8.9 Optical followers; 8.10 Heterodyne method; 8.11 Other optical methods; 8.12 Conclusions from the comparison of tactile and optical methods; Chapter 9. Scanning microscopes; 9.1 General; 9.2 Scanning microscopes; 9.3 Operation of the STM; 9.4 The atomic force microscope; 9.5 Scanning microscopes: conclusions; 9.6 Instruments 'horns of metrology' : conclusions; Chapter 10. Errors of form (excluding axes of rotation) 10.1 General statement 10.2 Straightness and related topics; 10.3 Measurement; 10.4 Assessment and classification of straightness; 10.5 Flatness; 10.6 Conclusions; Chapter 11. Roundness and related subjects; 11.1 General; 11.2 Direction of measurement; 11.3 Display of roundness; 11.4 Lobing; 11.5 Methods of measuring roundness; 11.6 Nature of the roundness signal; 11.7 Assessment of roundness; 11.8 Partial arc determination; 11.9 Other parameters; 11.10 Filtering for roundness; 11.11 Harmonic problems; 11.12 Alternatives to harmonic analysis; 11.13 Non-roundness parameters; 11.14 Conclusions Chapter 12. Cylindricity, sphericity

Sommario/riassunto

The importance of surface metrology has long been acknowledged in manufacturing and mechanical engineering, but has now gained growing recognition in an expanding number of new applications in fields such as semiconductors, electronics and optics. Metrology is the scientific study of measurement, and surface metrology is the study of the measurement of rough surfaces. In this book, Professor David Whitehouse, an internationally acknowledged subject expert, covers the wide range of theory and practice, including the use of new methods of instrumentation. · Written by one of the world's
