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Nota di contenuto	Characterisation 1. The surface: its measurement and standardisation; 2. Numerical parameters for characterisation of topography; 3. Development of feature extraction for surface texture; 4. Advanced Gaussian filters; 5. Multi scalar filtration methodologies -- Instrumentation 6. Methods for calibaration of 3D surface metrology instruments; 7. Calibration of atomic force microscopes -- Case studies 8. A comparison of 2D roughness parameters with 3D roughness parameters; 9. Applications of the numerical parameters and filtration; 10. Functionality and characterisation of textured sheet steel products; 11. Characterisation of automotive engine bore performance; 12. Expert systems for hosting surface data; 13. Future developments in surface metrology
Sommario/riassunto	This publication deals with the latest developments in the field of 3D surface metrology and will become a seminal text in this important area. It has been prepared with the support of the European Communitys Directorate General XII and represents the culmination of research conducted by 11 international partners as part of an EU-funded project. The aim of the project is to inform standards bodies of

the possibilities that exist for a new international standard covering the field of 3D surface characterisation. The book covers a description of the proposed 3D surface parameters and advanced filtering techniques using wavelet and robust Gaussian methodologies. The next generation areal surface characterisation theories are discussed and their practical implementation is illustrated. It describes techniques for calibration of 3D instrumentation, including stylus instruments as well as scanning probe instrumentation. Practical verification of the 3D parameters and the filtering is illustrated through a series of case studies which cover bio-implant surfaces, automotive cylinder liner and steel sheet. Finally, future developments of the subject are alluded to and implications for future standardisation and development are discussed