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Altri autori (Persone)	DudzikSebastian <1975->
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Nota di contenuto	Infrared Thermography: Errors and Uncertainties; Contents; Preface; About the Authors; Acknowledgements; Symbols; Glossary; 1 Basic Concepts in the Theory of Errors and Uncertainties; 1.1 Systematic and Random Errors; 1.2 Uncertainties in Indirect Measurements; 1.3 Method for the Propagation of Distributions; 2 Measurements in Infrared Thermography; 2.1 Introduction; 2.2 Basic Laws of Radiative Heat Transfer; 2.3 Emissivity; 2.4 Measurement Infrared Cameras; 3 Algorithm of Infrared Camera Measurement Processing Path; 3.1 Information Processing in Measurement Paths of Infrared Cameras 3.2 Mathematical Model of Measurement with Infrared Camera4 Errors of Measurements in Infrared Thermography; 4.1 Introduction; 4.2 Systematic Interactions in Infrared Thermography Measurements; 4.3 Simulations of Systematic Interactions; 5 Uncertainties of Measurements in Infrared Thermography; 5.1 Introduction; 5.2 Methodology of Simulation Experiments; 5.3 Components of the Combined Standard Uncertainty for Uncorrelated Input Variables; 5.4

Simulations of the Combined Standard Uncertainty for Correlated Input Variables
5.5 Simulations of the Combined Standard Uncertainty for Uncorrelated Input Variables6 Summary; Appendix A: MATLAB Scripts and Functions; A.1 Typesetting of the Code; A.2 Procedure for Calculating the Components of Combined Standard Uncertainty in Infrared Thermography Measurement Using the Presented Software; A.3 Procedure for Calculating the Coverage Interval and Combined Standard Uncertainty in Infrared Thermography Measurement Using the Presented Software
A.4 Procedure for Simulating the Cross-correlations Between the Input Variables of the Infrared Camera Model Using the Presented SoftwareA.5 MATLAB Source Code (Scripts); A.6 MATLAB Source Code (Functions); A.7 Sample MATLAB Sessions; Appendix B: Normal Emissivities of Various Materials (IR-Book 2000, Minkina 2004); Bibliography; Index; Colour Plates

Sommario/riassunto

In Infrared Thermography , the authors discuss the sources of uncertainty, including how to quantify these sources, associated with the use of thermal imagers. This book explains the common misunderstandings in the interpretation of temperature measurements, and provides a metrological evaluation of commercially available infrared cameras. It suggests how to best estimate the accuracy of thermal imaging instruments, whilst considering the level of accuracy attributed to measurements from these thermal imagers. Key features: Begins with an introduction to uncertainties and r