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Titolo	Infrared Thermography and Thermal Nondestructive Testing [[electronic resource] /] / by Vladimir Vavilov, Douglas Burleigh
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Descrizione fisica	1 online resource (XXII, 598 p. 309 illus., 104 illus. in color.)
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Soggetti	Physical measurements Measurement Materials science Microwaves Optical engineering Building materials Measurement Science and Instrumentation Characterization and Evaluation of Materials Microwaves, RF and Optical Engineering Building Materials
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Note generali	Includes index.
Nota di contenuto	Chapter 1. Physical models in TNDT -- Chapter 2. Heat transfer in solid bodies -- Chapter 3. Determining thermal properties of materials -- Chapter 4. Heat conduction in structures containing defects and the optimization of TNDT procedures -- Chapter 5. Defect characterization -- Chapter 6. Data processing in TNDT -- Chapter 7. Theory of thermal radiation -- Chapter 8. Equipment for active TNDT -- Chapter 9. Infrared systems -- Chapter 10. Statistical data treatment and decision making in TNDT -- Chapters 11. Applications of thermal/infrared NDT -- Chapter 12. Certification and normative documents in TNDT.
Sommario/riassunto	This is the first book summarizing the theoretical basics of thermal nondestructive testing (TNDT) by combining elements of heat conduction, infrared thermography, and industrial nondestructive

testing. The text contains the physical models of TNDT, heat transfer in defective and sound structures, and thermal properties of materials. Also included are the optimization of TNDT procedures, defect characterization, data processing in TNDT, active and passive TNDT systems, as well as elements of statistical data treatment and decision making. This text contains in-depth descriptions of applications in infrared/thermal testing within aerospace, power production, building, as well as the conservation of artistic monuments. The book is intended for the industrial specialists who are involved in technical diagnostics and nondestructive testing. It may also be useful for academic researchers, undergraduate, graduate and PhD university students.
