Record Nr. UNINA9910366597003321 Autore **Huang Songling Titolo** Theory and Methodology of Electromagnetic Ultrasonic Guided Wave Imaging / / by Songling Huang, Yu Zhang, Zheng Wei, Shen Wang, Hongyu Sun Singapore:,: Springer Singapore:,: Imprint: Springer,, 2020 Pubbl/distr/stampa **ISBN** 981-13-8602-1 Edizione [1st ed. 2020.] 1 online resource (IX, 289 p. 187 illus., 20 illus. in color.) Descrizione fisica 621.3 Disciplina Soggetti Microwaves Optical engineering Signal processing Image processing Speech processing systems Physical measurements Measurement Microwaves, RF and Optical Engineering Signal, Image and Speech Processing Measurement Science and Instrumentation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Directivity and controllability of electromagnetic Nota di contenuto ultrasonic transducer -- Time-Of-Flight extraction method for electromagnetic ultrasonic guided wave detection signal -- Guided wave electromagnetic ultrasonic tomography -- Guided wave electromagnetic ultrasonic scattering imaging. Sommario/riassunto

Written by respected experts, this book highlights the latest findings on the electromagnetic ultrasonic guided wave (UGW) imaging method. It introduces main topics as the Time of Flight (TOF) extraction method for the guided wave signal, tomography and scattering imaging methods which can be used to improve the imaging accuracy of defects. Further, it offers essential insights into how electromagnetic UGW can be used in nondestructive testing (NDT) and defect imaging.

As such, the book provides valuable information, useful methods and practical experiments that will benefit researchers, scientists and engineers in the field of NDT.