1. Record Nr. UNISA996418181403316

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Titolo	Basic Theory and Laboratory Experiments in Measurement and Instrumentation [[electronic resource]] : A Practice-Oriented Guide / / by Andrea Cataldo, Nicola Giaquinto, Egidio De Benedetto, Antonio Masciullo, Giuseppe Cannazza, Ilaria Lorenzo, Jacopo Nicolazzo, Maria Teresa Meo, Alessando De Monte, Gianluca Parisi, Federico Gaetani
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-46740-6
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (204 pages)
Collana	Lecture Notes in Electrical Engineering, , 1876-1100 ; ; 663
Disciplina	530.8
Soggetti	Physical measurements Measurement Electronics Microelectronics Statistics Measurement Science and Instrumentation Electronics and Microelectronics, Instrumentation Statistics for Engineering, Physics, Computer Science, Chemistry and Earth Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Basic theory of uncertainty evaluation in measurements -- Time Domain Measurements -- Frequency Domain Measurements -- Reflectometric Measurements -- PCB scheme.
Sommario/riassunto	This textbook offers a unique compendium of measurement procedures for experimental data acquisition. After introducing readers to the basic theory of uncertainty evaluation in measurements, it shows how to apply it in practice to conduct a range of laboratory experiments with instruments and procedures operating both in the time and frequency domains. Offering extensive practical information and hands-on tips on using oscilloscopes, spectrum analyzers and reflectometric instrumentation, the book shows readers how to deal

with e.g. filter characterization, operational amplifiers, digital and analogic spectral analysis, and reflectometry-based measurements. For each experiment, it describes the corresponding uncertainty evaluation in detail. Bridging the gap between theory and practice, the book offers a unique, self-contained guide for engineering students and professionals alike. It also provides university teachers and professors with a valuable resource for their laboratory courses on electric and electronic measurements.