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	Descrizione fisica	1 online resource (xvii, 276 pages) : digital, PDF file(s)
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	Soggetti	Measurement uncertainty (Statistics) Probabilities
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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Foundational ideas in measurement -- Components of error or uncertainty -- Foundational ideas in probability and statistics -- The randomization of systematic errors -- Beyond the standard confidence interval -- Final preparation -- Evaluation using the linear approximation -- Evaluation without the linear approximation -- Uncertainty information fit for purpose -- Measurement of vectors and functions -- Why take part in a measurement comparison? -- Other philosophies -- An assessment of objective Bayesian methods -- Guide to the expression of uncertainty in measurement -- Measurement near a limit, an insoluble problem?
	Sommario/riassunto	A measurement result is incomplete without a statement of its 'uncertainty' or 'margin of error'. But what does this statement actually tell us? By examining the practical meaning of probability, this book discusses what is meant by a '95 percent interval of measurement uncertainty', and how such an interval can be calculated. The book

argues that the concept of an unknown 'target value' is essential if probability is to be used as a tool for evaluating measurement uncertainty. It uses statistical concepts, such as a conditional confidence interval, to present 'extended' classical methods for evaluating measurement uncertainty. The use of the Monte Carlo principle for the simulation of experiments is described. Useful for researchers and graduate students, the book also discusses other philosophies relating to the evaluation of measurement uncertainty. It employs clear notation and language to avoid the confusion that exists in this controversial field of science.