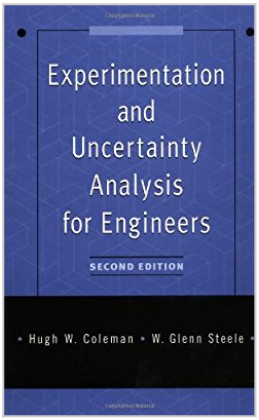

Experimentation and Uncertainty Analysis for Engineers

By Hugh W. Coleman, W. Glenn Steele

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The dramatic developments in the field of experimental uncertainty analysis over the last ten years have led to sweeping changes in applications, resulting in a new international experimental uncertainty standard. Now, in the only manual available with direct applications to the design and analysis of engineering experiments, respected authors Hugh Coleman and Glenn Steele have thoroughly updated their bestselling title to include the new methodologies being used by the United States and international standards committee groups. Along with several new examples, this latest edition includes new material on:
* The utilization of Uncertainty Magnification Factors (UMFs) and Uncertainty Percentage Contributions (UPCs) in the planning and early design phases of experiments
* Refined procedures for accounting for the effects of correlated bias errors
* Improved methods for accounting for the effects of asymmetric systematic uncertainties
* The importance of (previously ignored) correlated random errors with an example illustrating how to account for them
* Uncertainties in comparative testing
* Uncertainties in the comparison of data and predictions (code validation)
* Uncertainty analysis by direct Monte Carlo simulation
* A new method to determine regression uncertainties that properly accounts for both random and systematic uncertainties

With a step-by-step approach, engineering students as well as practicing professional engineers who analyze or design experiments will find Experimentation and Uncertainty Analysis for Engineers, Second Edition to be an invaluable reference tool.

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Editorial Review

From the Back Cover
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