

General Documents Derived from the GUM

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[2003](#) [2006](#) [2007](#) [2009](#) [2011](#) [2012](#) [2013](#)

1994

Guide to the Expression of Uncertainties in Testing

NIS 80, 1994 Edition, NAMAS Executive, National Physical Laboratory, Teddington, UK.

Traceable Calibration and Uncertainty of Measurements and Tests

NT Techn Report 251, 1994, B. Steffen, H. Kallio, Freygarður Þorsteinsson Ed., Nordtest, Espoo, Finland.

[Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results](#)

Barry N. Taylor and Chris E. Kuyatt

NIST Technical Note 1297, 1994 Edition, National Institute of Standards and Technology, Gaithersburg, USA.

1995

Determining and Reporting Measurement Uncertainties

NCSL Ad Hoc Committee on Measurement Uncertainties, Recommended Practice RP-12, 1995 Edition, National Conference of Standards Laboratories, Boulder, USA.

Calibration, Traceability and Uncertainty

NT Techn Report 305, NT guaranteed seminar in Espoo, 1995, Nordtest, Espoo, Finland.

1997

The Expression of Uncertainty and Confidence in Measurement

M 3003, 1997 Edition, United Kingdom Accreditation Service, Feltham, UK.

1998

Observing Validation, Uncertainty Determination and Traceability in Developing Nordtest Test Methods

Magnus Holmgren

NT Techn Report 403, 1998, Nordtest, Espoo, Finland.

1999

A Beginner's Guide to Uncertainty of Measurement

Stephanie Bell

Measurement Good Practice Guide No. 11, 1999, National Physical Laboratory, Teddington, UK.

Tools for the Test Laboratory to Implement Measurement Uncertainty Budgets

S.N. Rasmussen

NT Techn Report 430, 1999, Nordtest, Espoo, Finland.

2000

Quantifying Uncertainty in Analytical Measurement

Joint Eurachem/CITAC Working Group, [Eurachem/CITAC Guide](#), Second Edition 2000.

Estimer l'incertitude - Mesures - Essais

C. Perruchet and M. Priel

ISBN 2-12-460703-0, 2000, AFNOR, Paris La Défense, France.

Spanish version: *Estimacion de la incertidumbre : Medidas y ensayos*

Guía para Estimar la Incertidumbre de la Medición

W. A. Schmid and R. J. Lazos Martínez
Centro Nacional de Metrología, May 2000, México.

2001

Estimation and Uncertainty in Metrology

W. Bich

Procs. of the International School of Physics "Enrico Fermi", Course CXLVI: *Recent Advances in Metrology and Fundamental Constants*, Varenna, 25 July- 4 August 2000, edited by T. J. Quinn and S. Leschiutta, IOS Press, Amsterdam, 2001, pp. 653-688.

Software Specifications for Uncertainty Calculation and Associated Statistical Analysis

M.G. Cox, M.P. Dainton and P.M. Harris

NPL Report CMSC 10/01, from the Software Support for Metrology Programme, March 2001, National Physical Laboratory, Teddington, UK.

Uncertainty and Statistical Modelling

M.G. Cox, M.P. Dainton and P.M. Harris

Best Practice Guide No. 6, from the Software Support for Metrology Programme, March 2001, National Physical Laboratory, Teddington, UK.

Use of Monte Carlo Simulation for Uncertainty Evaluation in Metrology

M.G. Cox et al.

Advanced Mathematical & Computational Tools in Metrology V, Series on Advances in Mathematics for Applied Sciences - Vol. 57, 2001, pp 93 - 105, P. Ciarlini et al. Ed., World Scientific Publishing Co., Singapore.

The Total Median and its Uncertainty

M. G. Cox and E. Pardo Iguzquiza

Advanced Mathematical & Computational Tools in Metrology V, Series on Advances in Mathematics for Applied Sciences - Vol. 57, 2001, pp 106 - 117, P. Ciarlini et al. Ed., World Scientific Publishing Co., Singapore.

Bayesian Approaches to Data Fusion in Metrology

G. P. Kelly

Advanced Mathematical & Computational Tools in Metrology V, Series on Advances in Mathematics for Applied Sciences - Vol. 57, 2001, pp 224 - 230, P. Ciarlini et al. Ed., World Scientific Publishing Co., Singapore.

How to Treat Correlation in the Uncertainty Budget, when Combining Results from Different Measurements

R. Kessel et al.

Advanced Mathematical & Computational Tools in Metrology V, Series on Advances in Mathematics for Applied Sciences - Vol. 57, 2001, pp 231 - 241, P. Ciarlini et al. Ed., World Scientific Publishing Co., Singapore.

[Evaluation of measurements by the method of least squares](#)

L. Nielsen

Algorithms For Approximation IV, Proceedings of the 2001 International Symposium, Edited by J. Levesley, I.J. Anderson and J.C. Mason, University of Huddersfield.

The Estimation of a Confidence Belt for the Uncertainty Expression in a Measurement Process by Computationally Intensive Methods

A. Zanobini, G. Luculano, G. Pellegrini Gualtieri

Advanced Mathematical & Computational Tools in Metrology V, Series on Advances in Mathematics for Applied Sciences - Vol. 57, 2001, pp 352 - 356, P. Ciarlini et al. Ed., World Scientific Publishing Co., Singapore.

2002

Introducing the Concept of Uncertainty of Measurement in Testing in Association with the Application of the Standard ISO/IEC 17025

ILAC-G17:2002. International Laboratory Accreditation Cooperation.

Evaluating the Uncertainty of Measurement. Fundamentals and Practical Guidance.

I. Lira

Institute of Physics Publishing, 2002, Bristol, UK (243 pp).

2003

Measurement Uncertainty in Chemical Analysis

P. De Bièvre and H. Günzler (Eds)
Springer, 2003. ISBN 3-540-43990-0.

[EA guidelines on the expression of uncertainty in quantitative testing](#)

EA Laboratory Committee
Document EA-4/16, December 2003, European co-operation for Accreditation.

2006

[Guide to the evaluation of measurement uncertainty for quantitative test results](#)

European Federation of National Associations of Measurement, Testing and Analytical Laboratories, Eurolab technical report No 1/2006, August 2006.

An Introduction to Metrology

R. Laaneots and O. Mathiesen
TUT Press, 2006, Estonia. ISBN 9985-59-609-9.

2007

[Measurement uncertainty revisited: Alternative approaches to uncertainty evaluation](#)

European Federation of National Associations of Measurement, Testing and Analytical Laboratories, Eurolab Technical report No 1/2007.

2009

Analysis of dynamic measurements: compensation of dynamic error and evaluation of uncertainty, in "Advanced Mathematical & Computational Tools in Metrology VIII"

C. Elster and A. Link
Series on Advances in Mathematics for Applied Sciences, 2009, vol. **78**,
eds. F. Pavese, M. Bär, J.M. Linares, C. Perruchet, N.F. Zhang, 80-89, World
Scientific New Jersey.

[Guidelines on the Reporting of Compliance with Specification](#)

ILAC-G8:03/2009, International Laboratory Accreditation Cooperation.

Derivation of an output PDF from Bayes' theorem and the principle of maximum entropy, in "Advanced Mathematical & Computational Tools in Metrology VIII" ,

I. Lira, C. Elster, W. Wöger and M.G. Cox

Series on Advances in Mathematics for Applied Sciences, 2009, vol. **78**, eds. F. Pavese, M. Bär, J.M. Linares, C. Perruchet, N.F. Zhang, 213-218, World Scientific New Jersey.

Impact of correlation in the measured frequency response on the results of a dynamic calibration, in "Advanced Mathematical & Computational Tools in Metrology VIII" ,

G. Wübbeler, A. Link, T. Bruns and C. Elster

Series on Advances in Mathematics for Applied Sciences, 2009, vol. **78**, eds. F. Pavese, M. Bär, J.M. Linares, C. Perruchet, N.F. Zhang, 369-374, World Scientific New Jersey.

2011

Determination of measurement uncertainties in photometry

Commission internationale de l'éclairage

Technical Report CIE 198:2011

Supplement 1: Modules and Examples for the Determination of Measurement Uncertainties

Part 1: Modules for the Construction of Measurement Equations, CIE 198-SP1.1:2011

Part 2: Examples for Models with Individual Inputs, CIE 198-SP1.2:2011

Part 3: Examples for the Solving of Systems of Equations, CIE 198-SP1.3:2011

Part 4: Examples for Models with Distributions, CIE 198-SP1.4:2011

[Tutorial for Metrologists on the probabilistic and statistical apparatus underlying the GUM and related documents](#)

A. Possolo and B. Toman

NIST web site, 2011

2012

Uncertainty evaluation for continuous-time measurements, in "Advanced Mathematical & Computational Tools in Metrology and Testing IX"

S. Eichstädt and C. Elster

Series on Advances in Mathematics for Applied Sciences, 2012, vol. **84**, eds. F. Pavese, M. Bär, J.-R. Filtz, A. B. Forbes, L. Pendrill, K. Shirono. World Scientific New Jersey.

Assessment of the GUM S1 Adaptive Monte Carlo Scheme, in "Advanced Mathematical & Computational Tools in Metrology and Testing IX"

G. Wübbeler, P. M. Harris, M. G. Cox and C. Elster

Series on Advances in Mathematics for Applied Sciences, 2012, vol. **84**, eds. F. Pavese, M. Bär, J.-R. Filtz, A. B. Forbes, L. Pendrill, K. Shirono. World Scientific New Jersey.

2013

[*Evaluation of the Uncertainty of Measurement in Calibration*](#)

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