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Tutorial title: How to model measurement activity and define uncertainty

Abstract:

Measurement has become an important task in many critical activities. Quite often measurements are performed without completely understanding what measuring means, and, hence, without the awareness of the meaning that can be assigned to the measurement result.

This tutorial analyzes a general model for the measurement activity, from which the contributions of the different steps performed in a measurement procedure to the final uncertainty affecting the final result can be derived.

Then, the tutorial analyzes and discusses the definition of uncertainty given by the VIM and GUM, provides some examples on how uncertainty can be evaluated. The traceability concept is also briefly discussed.