# On the Description and Analysis of Measurements of Continuous Quantities.

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*Abstract*: The measurement of continuous quantities is the basis for all mathematical and statistical analysis of phenomena in engineering and science.Therefore a suitable mathematical description of measurement results is basic for realistic analysis methods for such data. Since the result of a measurement of a continuous quantity is not a precise real number but more or less non-precise, it is necessary to use an appropriate mathematical concept to describe measurements. This is possible by the description of a measurement result by a so-called non-precise number. A non-precise number is a generalization of a real number and is defined by a so-called characterizing function. In case of vector valued quantities the concept of so-called non-precise vectors can be used. Based on these concepts more realistic data analysis methods for measurement data are possible.