

ISO 5725-5:2025-10 (E)

Accuracy (trueness and precision) of measurement methods and results - Part 5: Alternative methods for the determination of the precision of a standard measurement method

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviations	1
5	Robust methods for data analysis: Algorithms A and S	3
5.1	Applications of robust methods of data analysis	3
5.2	Robust analysis: Algorithm A	5
5.3	Robust analysis: Algorithm S	7
5.4	Formulae: robust analysis for a particular level of a uniform-level design	8
5.5	Formulae: robust analysis for a particular level of a split-level design	9
5.6	Formulae: robust analysis for a particular level of an experiment on a heterogeneous material	9
6	Robust methods for data analysis: Q method and Hampel estimator	10
6.1	Rationale for computationally intensive estimators	10
7	Robust statistical analysis of results by means of the Q/Hampel method in a one-way replicated design	11
7.1	Introduction to the Q/Hampel method	11
7.2	Determination of the robust reproducibility standard deviation s_R using the Q method	11
11	7.3 Determination of the robust repeatability standard deviation s_r using the Q method	11
7.4	Determination of the robust mean \bar{x}^* using the Hampel estimator	11
13	8 Robust statistical analysis of results by means of the Q/Hampel method in a staggered nested design with two factors	13
8.1	Data layout and nomenclature	13
8.2	Determination of the robust reproducibility standard deviation s_R using the Q method	13
14	8.3 Determination of the robust intermediate standard deviation using the Q method	14
8.4	Determination of the robust repeatability standard deviation s_r using the Q method	14
15	8.5 Determination of the robust mean \bar{x}^* using the Hampel estimator	14
16	Annex A (normative) Determination of the robust mean using the Hampel estimator	17
	Annex B (informative) Derivations	19
	Annex C (informative) Examples	22
	Bibliography	38