

ISO 5725-5:1998-07 (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

1 Scope	1
2 Normative references	1
3 Definitions	2
4 Split-level design	2
4.1 Applications of the split-level design	2
4.2 Layout of the split-level design	2
4.3 Organization of a split-level experiment	3
4.4 Statistical model	4
4.5 Statistical analysis of the data from a split-level experiment	5
4.6 Scrutiny of the data for consistency and outliers	6
4.7 Reporting the results of a split-level experiment	7
4.8 Example 1 : A split-level experiment - Determination of protein	7
5 A design for a heterogeneous material	13
5.1 Applications of the design for a heterogeneous material	13
5.2 Layout of the design for a heterogeneous material	14
5.3 Organization of an experiment with a heterogeneous material	15
5.4 Statistical model for an experiment with a heterogeneous material	16
5.5 Statistical analysis of the data from an experiment with a heterogeneous material	17
5.6 Scrutiny of the data for consistency and outliers	20
5.7 Reporting the results of an experiment on a heterogeneous material	21
5.8 Example 2: An experiment on a heterogeneous material	21
5.9 General formulae for calculations with the design for a heterogeneous material	29
5.10 Example 3: An application of the general formulae	30
6 Robust methods for data analysis	33
6.1 Applications of robust methods of data analysis	33
6.2 Robust analysis: Algorithm A	35
6.3 Robust analysis: Algorithm S	36
6.4 Formulae: Robust analysis for a particular level of a uniform-level design	38
6.5 Example 4: Robust analysis for a particular level of a uniform-level design	38
6.6 Formulae: Robust analysis for a particular level of a split-level design	42
6.7 Example 5: Robust analysis for a particular level of a split-level design	42
6.8 Formulae: Robust analysis for a particular level of an experiment on a heterogeneous material	45
6.9 Example 6: Robust analysis for a particular level of an experiment on a heterogeneous material	45
Annexes	
A (normative) Symbols and abbreviations used in ISO 5725	50
B (informative) Derivation of the factors used in algorithms A and S	53
C (informative) Derivation of equations used for robust analysis	55
D (informative) Bibliography	56