

ISO 5725-1:2023-07 (E)

Accuracy (trueness and precision) of measurement methods and results - Part 1: General principles and definitions

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	General principles and practices of accuracy experiments	6
4.1	Accuracy experiment	6
4.2	Standard measurement method	7
4.3	Requirements concerning test items	7
4.4	Conditions for evaluation of repeatability (short intervals of time)	7
4.5	Conditions for evaluation of trueness	8
4.6	Participating laboratories	8
4.7	Influential factors (observation conditions)	8
5	Statistical model	9
5.1	Basic model	9
5.1.1	General mean, m	9
5.1.2	Laboratory component of bias: term B	10
5.1.3	Error term e	10
5.2	Relationship between the basic model and the precision	11
5.3	Bias of the measurement method	11
5.4	Alternative models	11
6	Experimental design of an accuracy experiment	12
6.1	Planning of an accuracy experiment	12
6.2	Standard measurement methods	12
6.3	Selection of laboratories for the accuracy experiment	12
6.4	Selection of test items to be used for an accuracy experiment	13
7	Utilization of accuracy data	14
7.1	Publication values of trueness and precision	14
7.2	Practical applications of trueness and precision values	15
7.2.1	General	15
7.2.2	Checking the acceptability of test results	15
7.2.3	Stability of test results within a laboratory	16
7.2.4	Assessing the performance of a laboratory	16
7.2.5	Comparing alternative measurement methods	16
7.2.6	Uncertainty evaluation	16
Annex A (informative)	Symbols and abbreviations used in ISO 5725 (all parts)	17
Bibliography		19