

ISO 16269-8:2004-09 (E)

Statistical interpretation of data - Part 8: Determination of prediction intervals

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms, definitions and symbols	2
3.1	Terms and definitions	2
3.2	Symbols	2
4	Prediction intervals	3
4.1	General	3
4.2	Comparison with other types of statistical interval	4
4.2.1	Choice of type of interval	4
4.2.2	Comparison with a statistical tolerance interval	4
4.2.3	Comparison with a confidence interval for the mean	4
5	Prediction intervals for all observations in a further sample from a normally distributed population with unknown population standard deviation	4
5.1	One-sided intervals	4
5.2	Symmetric two-sided intervals	5
5.3	Prediction intervals for non-normally distributed populations that can be transformed to normality	5
5.4	Determination of a suitable initial sample size, n, for a given maximum value of the prediction interval factor, k	6
5.5	Determination of the confidence level corresponding to a given prediction interval	6
6	Prediction intervals for all observations in a further sample from a normally distributed population with known population standard deviation	6
6.1	One-sided intervals	6
6.2	Symmetric two-sided intervals	7
6.3	Prediction intervals for non-normally distributed populations that can be transformed to normality	7
6.4	Determination of a suitable initial sample size, n, for a given value of k	7
6.5	Determination of the confidence level corresponding to a given prediction interval	8
7	Prediction intervals for the mean of a further sample from a normally distributed population	8
8	Distribution-free prediction intervals	8
8.1	General	8
8.2	One-sided intervals	8
8.3	Two-sided intervals	9
Annex A (normative)	Tables of one-sided prediction interval factors, k, for unknown population standard deviation	13
Annex B (normative)	Tables of two-sided prediction interval factors, k, for unknown population standard deviation	31

Annex C (normative) Tables of one-sided prediction interval factors, k, for known population standard deviation	49
Annex D (normative) Tables of two-sided prediction interval factors, k, for known population standard deviation	67
Annex E (normative) Tables of sample sizes for one-sided distribution-free prediction intervals	85
Annex F (normative) Tables of sample sizes for two-sided distribution-free prediction intervals	91
Annex G (normative) Interpolating in the tables	97
Annex H (informative) Statistical theory underlying the tables	101
Bibliography	108