

1. Record Nr.	UNINA9910465149503321
Autore	Wickens Thomas D. <1942->
Titolo	Elementary signal detection theory [[electronic resource] /] / Thomas D. Wickens
Pubbl/distr/stampa	Oxford ; New York, : Oxford University Press, c2002
ISBN	0-19-535780-9 1-280-76054-0 9786610760541
Descrizione fisica	1 online resource (277 p.)
Disciplina	621.382
Soggetti	Signal theory (Telecommunication) Signal detection Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 253-255) and index.
Nota di contenuto	Contents; 1 The signal-detection model; 1.1 Some examples; 1.2 Hits and false alarms; 1.3 The statistical decision representation; Reference notes; Exercises; 2 The equal-variance Gaussian model; 2.1 The Gaussian detection model; 2.2 The equal-variance model; 2.3 Estimating d' and ; 2.4 Measuring bias; 2.5 Ideal observers and optimal performance; Reference notes; Exercises; 3 Operating characteristics and the Gaussian model; 3.1 The operating characteristic; 3.2 Isocriterion and isobias contours; 3.3 The equal-variance Gaussian operating characteristic 3.4 The unequal-variance Gaussian model3.5 Fitting an empirical operating characteristic; 3.6 Computer programs; Reference notes; Exercises; 4 Measures of detection performance; 4.1 The distance between distributions; 4.2 Distances to the isosensitivity line; 4.3 The area under the operating characteristic; 4.4 Recommendations; 4.5 Measures of bias; 4.6 Aggregation of detection statistics; Reference notes; Exercises; 5 Confidence ratings; 5.1 The rating experiment; 5.2 The detection model for rating experiments; 5.3 Fitting the rating model; Exercises; 6 Forced-choice procedures 6.1 The forced-choice experiment6.2 The two-alternative forced-

choice model; 6.3 Position bias; 6.4 Forced-choice and yes/no detection tasks; 6.5 The K-alternative forced-choice procedure; Exercises; 7 Discrimination and identification; 7.1 The two-alternative discrimination task; 7.2 The relationship between detection and discrimination; 7.3 Identification of several stimuli; Reference notes; Exercises; 8 Finite-state models; 8.1 The high-threshold model; 8.2 The high-threshold operating characteristic; 8.3 Other finite-state representations; 8.4 Rating-scale data; Reference notes; Exercises 9 Likelihoods and likelihood ratios9.1 Likelihood-ratio tests; 9.2 The Bayesian observer; 9.3 Likelihoods and signal-detection theory; 9.4 Non-Gaussian distributions; Reference notes; Exercises; 10 Multidimensional stimuli; 10.1 Bivariate signal detection; 10.2 Likelihood ratios; 10.3 Compound signals; 10.4 Signals with correlated components; 10.5 Uncertainty effects; Reference notes; Exercises; 11 Statistical treatment; 11.1 Variability in signal-detection studies; 11.2 Fundamental sampling distributions; 11.3 Simple detection statistics; 11.4 Confidence intervals and hypothesis tests
11.5 Goodness-of-fit tests11.6 Comparison of hierarchical models; 11.7 Interobserver variability; Reference notes; Exercises; Appendix: A summary of probability theory; A.1 Basic definitions; A.2 Random variables; A.3 Some specific distributions; References; Index; A; B; C; D; E; F; G; H; I; J; K; L; M; N; O; P; R; S; T; U; V; W; X; Z

Sommario/riassunto

1. The signal-detection model2. The equal-variance Gaussian model3. Operating characteristics and the Gaussian model4. Measures of detection performance5. Confidence ratings6. Forced-choice procedures7. Discrimination and identification8. Finite-state models9. Likelihoods and likelihood ratios10. Multidimensional stimuli11. Statistical treatmentAppendix A summary of probability theoryReferencesIndex
