

**PACKAGE ID** - 000235IBMPC00 SENSIT,MUSIG,COMSEN

**KWIC TITLE** - Sensitivity Test Analysis

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**LIMITATION CODE** -UNL                   **AUDIENCE CODE** - UNL

**COMPLETION DATE** - 11/01/1989   **PUBLICATION DATE** - 02/20/1992

**DESCRIPTION** - SENSIT,MUSIG,COMSEN is a set of three related programs for sensitivity test analysis. SENSIT conducts sensitivity tests. These tests are also known as threshold tests, LD50 tests, gap tests, drop weight tests, etc. SENSIT interactively instructs the experimenter on the proper level at which to stress the next specimen, based on the results of previous responses. MUSIG analyzes the results of a sensitivity test to determine the mean and standard deviation of the underlying population by computing maximum likelihood estimates of these parameters. MUSIG also computes likelihood ratio joint confidence regions and individual confidence intervals. COMSEN compares the results of two sensitivity tests to see if the underlying populations are significantly different. COMSEN provides an unbiased method of distinguishing between statistical variation of the estimates of the parameters of the population and true population difference.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Media Includes Source, Executable, Sample Problems, Machine Readable Documentation;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 5.25 Diskette

**METHOD OF SOLUTION** - SENSIT conducts the sensitivity tests according to the Neyer procedure, which has been shown to be up to several times more efficient than standard sensitivity tests such as the Probit, Bruceton (Up-and-Down), Robbins-Monro, and Langlie tests. COMSEN uses the likelihood ratio test to check the hypothesis that the two samples were drawn from the same population.

**COMPUTER** - IBM PC

**OPERATING SYSTEMS** - MS-DOS

**PROGRAMMING LANGUAGES** - FORTRAN 77

**SOURCE CODE AVAILABLE (Y/N)** - Y

**RELATED SOFTWARE** - The likelihood ratio test used in MUSIG provides better confidence intervals than ASENT, which computes Cramer-Rao

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**RELATED SOFTWARE - (CONT)** lower bounds of the variance.

**REFERENCES** - SENSIT,MUSIG,COMSEN, NESC No. 9438, SENSIT,MUSIG,COMSEN  
Flexible Disk Cartridge Description, National Energy Software  
Center Note 90-47, March 7, 1990.

**ABSTRACT STATUS** - Abstract first distributed March 1990. IBM PC version  
submitted November 1989.

**SUBJECT CLASS CODE** - 0

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
C CODES  
SENSITIVITY ANALYSIS  
STATISTICAL MODELS  
MAXIMUM-LIKELIHOOD FIT  
SAMPLING  
TESTING  
COMPARATIVE EVALUATIONS  
PERSONAL COMPUTERS

**EDB SUBJECT CATEGORIES** -  
990200

**SPONSOR** - DOE/DP

**PACKAGE TYPE** - SCREENED