

## VARIANCE PLOT

### PURPOSE

Generates a subsample variance versus subsample index plot.

### DESCRIPTION

The subsample variance is the variance (with divisor  $n_i-1$ ) of the data in the subsample. The variance plot is used to answer the question: "Does the subsample variation change over different subsamples?" It consists of:

Vertical axis = subsample variance;

Horizontal axis = subsample index.

In addition, a horizontal line is drawn representing the full sample variance. The appearance of the 2 traces is controlled by the first 2 settings of the LINES, CHARACTERS, SPIKES, BARS, and similar attributes.

### SYNTAX

VARIANCE PLOT <y> <x> <SUBSET/EXCEPT/FOR qualification>

where <y> is the response (= dependent) variable;

<x> is the subsample identifier variable (this variable appears on the horizontal axis);

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

### EXAMPLES

VARIANCE PLOT Y X

VARIANCE PLOT Y X SUBSET X > 2

### DEFAULT

None

### SYNONYMS

VAR PLOT

V PLOT

### RELATED COMMANDS

CHARACTERS	=	Sets the type for plot characters.
LINES	=	Sets the type for plot lines.
STANDARD DEVIATION PLOT	=	Generates a standard deviation plot.
STANDARD DEVI OF MEAN PLOT	=	Generates a standard deviation of the mean plot.
VARIANCE OF MEAN PLOT	=	Generates variance of the mean plot.
RANGE PLOT	=	Generates a range plot.
MEAN PLOT	=	Generates a mean plot.
MEDIAN PLOT	=	Generates a median plot.
BOX PLOT	=	Generates a box plot.
S CHART	=	Generates a standard deviation control chart.
PLOT	=	Generates a data or function plot.

### APPLICATIONS

Quality Control

### IMPLEMENTATION DATE

88/2

## PROGRAM

```
SKIP 25
READ GEAR.DAT DIAMETER BATCH
LINE BLANK DASH
CHARACTER X BLANK
XTIC OFFSET 0.2 0.2
YILABEL VARIANCE
XILABEL BATCH
TITLE VARIANCE PLOT
VARIANCE PLOT DIAMETER BATCH
```

