

**ANDREWS INCREMENT****PURPOSE**

Specifies the x axis increment for generating Andrews curves.

**DESCRIPTION**

An Andrews plot is a graphical data analysis technique for plotting multivariate data. An Andrews curve applies the following transformation to a set of data:

$$F_i(t) = X1_i/\text{SQRT}(2) + X2_i*\text{SIN}(t) + X3_i*\text{COS}(t) + X4_i*\text{SIN}(2t) + X5_i*\text{COS}(2t) + \dots$$

where t goes from -PI to PI and X1, X2, etc. are the columns (i.e., variables) of data. This command allows the analyst to specify the increment for t. A smaller increment generates a higher resolution curve at the expense of more data points per curve.

**SYNTAX**

ANDREWS INCREMENT <inc>

where <inc> is a positive decimal number or parameter that specifies the increment.

**EXAMPLES**

ANDREWS INCREMENT 0.1

ANDREWS INCREMENT 0.05

**DEFAULT**

The default increment is 0.1.

**SYNONYMS**

None

**RELATED COMMANDS**

ANDREWS PLOT = Generate an Andrews plot.

**REFERENCE**

“Graphical Exploratory Data Analysis,” duToit, Steyn, and Stumpf, Springer-Verlang, 1986.

**APPLICATIONS**

Multivariate Analysis

**IMPLEMENTATION DATE**

92/12

## PROGRAM

```
READ X1 X2 X3 X4 X5 X6
16 16 19 21 20 23
14 17 15 22 18 22
24 23 21 24 20 23
18 17 16 15 20 19
18 11 9 18 7 14
END OF DATA

.
LINE COLOR RED BLUE GREEN ORANGE CYAN
TITLE AUTOMATIC
YLIMITS -50 100
YTIC OFFSET 0 10

.
XLIMITS -3 3
XTIC OFFSET 0.2 0.2
MAJOR XTIC MARK NUMBER 7

.
ANDREWS INCREMENT 0.05
ANDREWS PLOT X1 X2 X3 X4 X5 X6
```

See the ANDREWS PLOT command for the sample when the default increment is used.

