TAGUCHI SN0

PURPOSE

Computes the Taguchi signal-to-noise (S/N) ratio for the "target is better" (= "nominal is better") case with a "variance is dependent on the mean" subcase.

DESCRIPTION

For this "target is better" case, the S/N ratio is defined as:

$$SN0 = -20 \times \log 10 \left(\left| \frac{\bar{x}}{s} \right| \right)$$
 (EQ 2-13)

where \overline{x} is the sample mean and s is the sample standard deviation.

SYNTAX

LET <par> = TAGUCHI SN0 <y>

<SUBSET/EXCEPT/FOR qualification>

where *<*y> is a response variable;

<par> is a parameter where the computed Taguchi S/N ratio is stored;

and where the \langle SUBSET/EXCEPT/FOR qualification \rangle is optional.

EXAMPLES

LET TAGUCHI = TAGUCHI SN0 Y LET TAGUCHI = TAGUCHI SN0 Y SUBSET TAG = 5

DEFAULT

None

SYNONYMS

The word TAGUCHI is optional (i.e., SN0 is a synonym for TAGUCHI SN0).

RELATED COMMANDS

TAGUCHI SN0 PLOT	=	Generates a target is better and variance is dependent on the mean signal-to-noise versus subset plot.
TAGUCHI SN00	=	Computes the target is better and variance is independent of the mean signal-to-noise ratio.
TAGUCHI SN+ TAGUCHI SN-	=	Computes the larger is better signal-to-noise ratio. Computes the smaller is better signal-to-noise ratio.

REFERENCE

"Statistical Methods and Applications," Jack Elliot, Allied Signal, 1987 (pp. 4-3, 4-4).

APPLICATIONS

Experiment Design and Quality Control

IMPLEMENTATION DATE

94/2

PROGRAM

SKIP 25 READ GEAR.DAT DIAMETER BATCH LET A = TAGUCHI SN0 DIAMETER