Command	FSUM

PURPOSE   Compute sum and moments of raw or net data.

PARAMETERS

WINDOWS   List of windows, interpreted as follows:
number:	analyzer condition
letter:	display window
#:	temporary window
*:	all fit windows (command "FWIN")

/DISPLAY   All current display windows are integrated

/CONDITIONS   All conditions of the displayed analyzer are integrated unless they are equal to the analyzer limits.

/LOOP   Windows are entered by cursor input loop. For details see command "FWIN".

/TOTAL   Sum and moments of raw data are calculated.

/NET   Sum and moments of net data are calculated, i.e. the corresponding value of the current total fit function is subtracted from each experimental data point.

/FWHM   The variance is converted into a full with at half maximum (FWHM); the skewness is expressed in terms of the square root of the variance.

/FITERRORS   If specified, the background error is derived from errors and correlations of the fit parameters; otherwise errors of the subtracted fit data are assumed to be statistical, percentual or unknown, corresponding to the mode of experimental errors (command "FERR").

/GRAPHIC   The output is written into the current picture.

FUNCTION   For each window containing n elements of the distribution $y_i(x_i)$, the sum (including error) and the first, second and third moments (mean, variance or FWHM, and skewness) are computed due to the following expressions:

sum	$s = \Sigma\ y_i$
mean	$m = \Sigma\ y_i \cdot x_i\ /\ s$
variance	$\sigma^2 = \Sigma\ y_i \cdot (x_i - m)^2\ /\ s$
FWHM	$w = (8 \cdot \ln2)^{1/2} \cdot (n/(n-1))^{1/2} \cdot \sigma$
skewness	$\mu_3 = \Sigma\ y_i\ (x_i - m)^3\ /\ s$
rel. skewness	$\gamma = \mu_3\ /\ \sigma^3$

The error of the sum is derived from the errors of the experimental data (given by command "FERR") and corresponding background errors (for net data), assuming uncorrelated propagation.

REMARKS   Only non-negative data lying inside the displayed region are considered

EXAMPLE   FSUM / C G
Sum and moments of raw and net data of all conditions of the actual
analyzer are written into the current picture.

FSUM A B C / N FW
The following items of the net data in the windows A, B and C ar
calculated and listed: lower and upper window limit, sum, error, mean,
FWHM, relative skewness